ALBERTA ECONOMIC MULTIPLIERS

2009

Alberta Treasury Board and Finance

Representations and Warranties

© Government of Alberta, 2013

The information contained in this publication is based on the 2009 Input-Output tables produced by Statistics Canada. All computations were prepared by Alberta Treasury Board and Finance.

Final use and interpretation of the results and validity of inputs is the sole responsibility of the user of the data published in this publication. Any results, either direct or derived, are not a representation of the views or the policies of the Government of Alberta, and must be noted as such in any publication, report or analysis employing this information.

Except as stated herein, Alberta Treasury Board and Finance makes no representations or warranties, expressed or implied, as to merchantability or fitness of these data for any particular purpose.

October, 2013

Preface

This publication presents economic multipliers and supply ratios for the Alberta economy calculated using the 2009 Alberta Treasury Board and Finance Input-Output (I/O) Model. Information is provided for both the Open (direct and indirect impacts) and Closed (direct, indirect and induced impacts) forms of the model. Economic impacts are presented for the Alberta economy only.

The tables used in this publication are derived from the 2009 Inter-provincial Input-Output tables released by Statistics Canada in January 2013.

Custom Impact Analysis

In addition to this publication, Alberta Treasury Board and Finance maintains a highly disaggregated I/O model at the detailed confidential level, which covers 235 industries and 481 commodities. The model may be used to simulate directly both Open and Closed impacts, where additional precision or more detailed output is required than is presented in this publication. To make the model more descriptive of changing economic conditions, the industry and commodity structure can also be customized to client specifications.

The I/O model has a tax module that provides impacts on federal, provincial and local tax revenues, as well as the number of jobs required for any given impact.

Inquiries concerning this publication or requests for simulations using the 2009 Alberta Input-Output Model should be directed to:

Owen Jung
Manager, Business Sector Analysis
Economics and Fiscal Policy
Alberta Treasury Board and Finance
555, Terrace Building
9515-107 Street
Edmonton, Alberta
Canada T5K 2C3
Phone: (780) 427-8840
FAX: (780) 426-3951

Table of Contents

Preface i

Introduction 2

The Input-Output Model 3

Alberta Economic Multipliers 6

Description of Economic Multiplier Tables 8

Application of Economic Multipliers 10

Table 1: Alberta Industry Intensity Ratios

Open Model - Direct and Indirect Impacts 14

Table 2: Alberta Industry Multipliers

Open Model - Direct and Indirect Impacts 17

Table 3: Alberta Commodity Intensity Ratios in Basic Prices

Open Model - Direct and Indirect Impacts 20

Table 4: Alberta Commodity Intensity Ratios in Purchaser Prices

Open Model - Direct and Indirect Impacts 22

Table 5: Alberta Industry Intensity Ratios

Closed Model - Direct, Indirect and Induced Impacts 24

Table 6: Alberta Industry Multipliers

Closed Model - Direct, Indirect and Induced Impacts 27

Table 7: Alberta Commodity Intensity Ratios in Basic Prices

Closed Model - Direct, Indirect and Induced Impacts 30

Table 8: Alberta Commodity Intensity Ratios in Purchaser Prices

Closed Model - Direct, Indirect and Induced Impacts 32

Table 9: Alberta Industry Intensity Ratios

Closed Model with Safety Net - Direct , Indirect and Induced Impacts 34

Table 10: Alberta Industry Multipliers

Closed Model with Safety Net - Direct , Indirect and Induced Impacts 37

Table 11: Alberta Commodity Intensity Ratios in Basic Prices

Closed Model with Safety Net - Direct, Indirect and Induced Impacts 40

Table 12: Alberta Commodity Intensity Ratios in Purchaser Prices

Closed Model with Safety Net - Direct, Indirect and Induced Impacts 42

Table 13: Alberta Commodity Supply Ratios

Percent 44

Appendix 1:

Industry Concordance: "Link 1961" <--> "Detailed" 46

Appendix 2:

Industry Codes: "Detailed" <-> North American Industry Classification System (NAICS) 50

Introduction

Measuring Production in the Economy

The most commonly known measure of production in the economy is Gross Domestic Product (GDP). GDP captures the value of goods and services produced for final domestic consumption, export or investment. In other words, it covers only final, unduplicated output. For example, the value of a good or service sold by Industry A to Industry B, and then used in industry B's production process for sale into final demand, is not directly recorded in GDP. Industry A's output is not counted directly because it is implicitly included in the value of output of industry B when it is sold into final demand. Including Industry's A output would result in double-counting of its contribution to the overall economy. To avoid this problem, in calculating GDP, goods or services are valued only at the point where they are sold into final domestic demand (i.e., to households for consumption, to business for investment, or to government for current or capital expenditure), or when they are exported.

In measuring GDP, the value of goods and services consumed during the production process, referred to as intermediate consumption, is not captured. While the GDP method ensures that there is no duplication, very useful information concerning the flow of goods and services among the various industries in an economy is not revealed.

To better reflect these linkages in the economy, it is necessary to use another valuation method called total output. Total output captures the value of goods and services for final consumption or export, plus those that are consumed during the production process, referred to as intermediate inputs. This is the focus of input-output analysis.

The System of National Accounts

Statistics Canada has developed a comprehensive accounting framework, the System of National Accounts (SNA), that provides the tools to analyze production from both a value-added GDP and input-output perspective.

The SNA enables us to measure the value of goods and services in the economy, including the flow of commodities to final demand sectors, the cost of primary inputs to industries, and the value added by industries.

There are four key statistical components of the SNA:

- Input-Output (I/O) tables, which summarize the total output of commodities by industry and the use of commodities by industries. They reflect the flow of commodities between industries and to final demand sectors, the value added by industry, and the cost of primary inputs to industries. In this way, the I/O tables describe the activity of production in the economy.
- Income and expenditure accounts, which focus on income generated by productive activity and final expenditure on that production. It is from these tables that the common measure of GDP is calculated. Estimates of Alberta GDP can be found in the income and expenditure accounts of the Alberta Economic Accounts.
- Financial flow and national balance sheet accounts, which focus on capturing transactions in assets and liabilities for a number of institutional sectors. The financial flows accounts reveal the financing of economic activity.
- Balance of payments and international investment position, which are devoted entirely to transactions with non-residents or the rest of the world in the economy.

The SNA recently underwent a historical (comprehensive) revision, which entails the incorporation of conceptual, classification, presentational and major statistical changes. As a result, the lists of industries and commodities presented in this publication will differ from those in previous editions.

For more detailed discussion on the SNA, please go to the Statistics Canada website, System of National Economic Accounts www.statcan.gc.ca/nea-cen/index-eng.htm.

The Input-Output Model

What Are I/O Models?

Input-Output (I/O) models use the information from I/O tables to capture the interdependence of industries and reflect the flow of goods and services through the economy. The main purpose of I/O models is to do impact analysis, measuring how changes in industry output or final demand for commodities impact the economy in terms of total output, GDP, employment, labour income, and government revenue.

I/O analysis has its foundations in the analytical framework developed by Wassily Leontief in the late 1930s. In its most basic form, an I/O model consists of a system of linear equations which represent how various industries' commodities are distributed throughout the economy.

I/O models are based on tables that describe the flow of commodities through the economy from producers in one industry to another industry, and to final demand. The table below represents a simplified I/O framework:

Table 1: Simplified I/O Accounting Framework

	Industries	Net Final Demand	Total Output
Industries	F	Y	X
Value added (Primary Inputs)	V		
Total Input	X		

Source: UN Handbook of Input-Output Table Compilation and Analysis, 1999

The industries on top are consuming sectors, while the industries down the side are supplying sectors. Matrix F maps out the flow of commodities from the supplying sectors to the consuming sectors, including other industries and to final demand entities. Total input is the sum of the inputs supplied by industries and any value added (other non-industrial inputs to production like labour, profit, depreciation of capital, and indirect taxes). Total output is the sum of output consumed by industries in the production process (represented in row on top), plus net final demand. Theoretically, the total value of output in the economy equals the sum of its inputs (Total Input X = Total Output X).

From this table, fixed-coefficient linear production functions can be developed that represent the proportion of commodities being supplied and consumed by each industry. These coefficients are the backbone of I/O analysis, because they represent how changes in input or output will impact the entire economy.

Table 1 represents a basic I/O model; in practice, I/O models have been developed to incorporate the effects of inter-regional trade flows, employment, taxes, and other variables.

I/O Impacts and Model Closure

The impacts generated through I/O models can be separated into direct, indirect, and induced:

- Direct impacts are those first level impacts resulting from a shock or change in demand, to either industry output or final demand. They refer to the direct impact on those industries that must respond to satisfy the change in demand for commodities.
- Indirect impacts are secondary, and are generated from the linkages between industries. They refer to the impacts on industries that supply intermediate inputs to the industries directly impacted by the shock.
- Induced impacts capture the income effect of the shock. They measure the impact of additional consumption from spending the wages generated by the shock. For example, when there is an increase in final demand, industries have to increase production. They hire additional people, who receive wages. It is assumed that these households, after withdrawing a portion of their income for savings and taxes, spend the rest of their income on consumer goods and services. This creates an additional multiplier effect on the economy.

Calculating GDP

The three methods for calculating GDP can be applied using the I/O framework above.

1) The value-added approach, which is the sum of value added for all industries (subtracting purchases from other businesses from the total value of output)
2) The income approach, which adds up all the factor incomes generated in the production process (for example, labour and profits)
3) The final expenditure approach, which is the sum of all sales to end users, including exports net of imports.

The Input-Output Model

Open vs. Closed

The impact of spending by final demand categories can be considered external to an I/O model because decisions about spending come from factors outside the model, such as availability, personal preference, etc. This means that the final demand by these entities is taken as given, and is unrelated to the level of production by industries in the model. In this type of model, which is referred to as an "Open" I/O model, direct and indirect impacts are measured, while induced are not.

In reality, there is a link between households and the production process through labour and wages, represented by the induced impacts. In this case, the household sector is endogenous to the model and treated as a production sector. The input of the household sector is consumer expenditure on goods and services, while output is labour income (consisting of wages and salaries, supplementary labour income, and net income of unincorporated business). An I/O model which makes households endogenous is referred to as a "Closed" model. I/O models can also be "closed" to other factors such as government sales and purchases, but closure to households is the most common. In this type of model, all three impacts are measured: direct, indirect, and induced.

Closing an I/O model to households increases the interdependence of the system and results in a higher impact on the variables of the model, leading to multipliers of a larger magnitude than those based on the Open version. The Closed model has been criticized because it introduces a bias in favor of those economic projects with a higher labour content. For example, consider the case where two projects have the identical purchased inputs and the same level of direct GDP, but where one project has a higher proportion of labour income and the other a higher proportion of other operating surplus (e.g., corporation profits). For this case, the closed model will estimate a larger economic impact for the project with the higher proportion of labour income (other things being equal). This result occurs because the model has been "closed" to household spending but not to profits, and the induced impacts estimated by the model are related to the level of household income rather than profits. Care should be exercised when interpreting Closed model results.

Limitations of I/O Models

Input-Output analysis is based on various assumptions about the economy and the linkages among industries and commodities. While I/O models are a very useful tool in the decision making process, users should be aware of the caveats and limitations when applying them:

- The relationship between industry inputs and outputs is linear and fixed, meaning that a change in demand for a commodity or for the outputs of any industry will result in a proportional change in production. The model cannot account for economies/diseconomies of scale or structural changes in production technologies, an assumption which does not necessarily hold in the real economy.
- Prices are fixed in the model.
- I/O models reflect industry averages for technology use and average input costs. For these and other reasons, an I/O model will not provide a totally complete or absolute measure of the impact of economic change.
- I/O models are static and do not take into account the amount of time required for changes to happen.
- There are no capacity constraints and all industries are operating at capacity. This implies that an increase in output results in an increase in demand for labour (rather than simply re-deploying existing labour). It also implies that there is no displacement that may occur in existing industries as new projects are completed.

The structure and limitations of I/O models lend themselves to measuring the impacts of projects that are shorter term in nature; generally, they are used to look at shocks to the economy. For longer-term, time series analysis, general equilibrium models are more appropriate.

The Input-Output Model

The Alberta I/O Model

Alberta Treasury Board and Finance has developed an I/O model for the Alberta economy based on the structure of Statistics Canada's inter-provincial model. Although the Alberta model accounts for the interaction of imports and exports on the Alberta economy (both inter-provincial and international), the Alberta model provides impacts only for Alberta. The model has the capacity to run impact analysis on industry expenditures, output, and changes in final demand.

The key inputs to the model are the Alberta I/O tables, produced annually by Statistics Canada through the SNA. The I/O tables consist of the output, use, and final demand matrices. The output matrix is a table that shows the value of goods and services produced by each industry, the use matrix shows the makeup of the inputs needed for each industry to produce its output, and the final demand matrix shows final consumption of goods and services. Using these tables, it is possible to produce a system similar to the one outlined in Table 1.

I/O tables may be available publicly for Canada and the provinces at the "Summary", "Link 1961", "Link 1997" and "Detailed" level of aggregation. There is an additional "Detailed Confidential" level of aggregation, which is provided to provinces confidentially through data-sharing agreements. This level provides the most detail, and includes 235 industries, 481 commodities, and 278 final demand categories. The Alberta I/O model is based on "Detailed Confidential" level data, but analysis can be done at the other aggregation levels.

The Alberta model has a tax module that provides impacts on federal, provincial, and local tax revenues. The model also estimates the number of jobs required for any given impact. There is also the ability to do customized runs for different tax and wage scenarios.

A "Safety Net" feature was added to the model in 2011. This feature allows for the assumption that a certain number of jobs required for a change in output of a project will come from people who are receiving employment insurance. When this new feature is activated, the induced impacts resulting from a project will be less, since a portion of new jobs are filled by people previously receiving employment insurance. This means that the amount of additional income earned is lower than if those employees had not been receiving EI benefits. This publication includes both Closed model results without a "Safety Net" and Closed model values with this feature activated.

The most common application of I/O models is economic multipliers, which are generated by the I/O model for industries and commodities. Economic multipliers capture the impact of shocks to the economy on output, labour income, employment, and GDP. They enable users to do impact analysis without getting into the detailed analysis associated with the I/O models.

Limitations of I/O Multipliers

Economic mulitpliers are subject to the same caveats and limitations of I/O models. This includes the caveats associated with fixed prices, production technology, and capacity. In addition, there are several other things to keep in mind when using multipliers:

- Multipliers are specific to regions and economies. The multipliers in this publication are for the Alberta economy, and cannot be used to estimate impacts for other regions. This includes other regions within Canada or smaller regions within Alberta.
- The size and interpretation of a multiplier depend on how it is defined. For example, multipliers that include direct, indirect, and induced impacts will be larger than those that just include direct and indirect. There are multipliers that measure the impact on gross output while others measure GDP, or value-added, which is often more desirable because GDP multipliers eliminate the double-counting of expenditures (or benefits). It is important when using multipliers to be clear about the definition of the multiplier and the impacts being measured. It may be tempting to use the multiplier that gives the largest impact, but this may not be the most appropriate multiplier.
- Impacts reflect the structure of the economy and industry linkages at a point in time, i.e. 2009. If these linkages have changed, the calculation of the impacts in another year (e.g. 2014) will be less valid. Generally, the more removed the year of analysis from the year of the multipliers, the greater the limitations.
- As discussed previously, I/O models are static and do not give any indication about the time it takes for changes to happen. This means that multipliers do not give any indication about when the impacts will occur or how long they will last. For example, many projects have construction and operating phases, each with its own multiplier effect. Construction impacts may be larger but are short-lived, while operating impacts may be smaller but occur over a longer period.

Alberta Multiplier Structure

Open vs. Closed Multipliers

There are two main kinds of multipliers: Open and Closed. Open multipliers reflect only direct and indirect effects, and are derived from the Open model. Closed multipliers include induced impacts as well as direct and indirect effects, and are derived from the Closed model. Results from both the Open and Closed (to households) models are presented in this publication. This approach allows users to use both versions for the purposes of analysis and to judge for themselves where the inclusion of induced impacts is warranted or advisable.

Industry and Intensity Multipliers

Economic multipliers presented in this report are expressed in two forms: as industry multipliers and as intensity ratios for industries and commodities.

Industry multipliers are calculated by taking the total impact observed for a change in an economic variable and dividing it by the direct change. For example, if adding 100 jobs (the direct change) to an industry's workforce resulted in a total increase of 180 jobs (the total change) in the economy overall, the industry employment multiplier would be 1.8. Users are cautioned that they must know the direct impact on GDP at basic prices, labour income, or number of direct jobs before they can use this type of multiplier.

Intensity ratios for commodities and industries are calculated by dividing the total economic impact by the change in output. For example, if an industry increases its output by $5.0 million and this leads to an increase of $4.0 million in Alberta GDP, the intensity ratio would be 0.80 (i.e., 4.0 divided by 5.0). Intensity ratios are particularly useful for users because they are applied to gross output or expenditure, unlike absolute multipliers, which have to be applied to the direct change. This is the type of multiplier that most users typically use since they generally know the direct change in revenue or expenditure, but do not know the direct change in GDP that they are interested in analyzing.

Basic and Purchaser Prices

Commodity intensity ratios are presented in both basic and purchaser prices. Data that are measured in basic prices reflect the price received directly by the producer of the commodity. For example, this corresponds to the "farm gate" price in agriculture or the price received directly by a producing establishment in manufacturing.

Data in purchaser prices reflect the price paid by the final users of the good. This price, in addition to the price received by the producer of the commodity, reflects other costs such as the price of transportation from the producer to the final seller, wholesale and retail mark-ups, and commodity indirect taxes. These other costs, which are added to basic prices to derive purchaser prices, are referred to as margins. The model treats these margins as if they were purchased directly by the purchaser of the final good.

Commodity Supply Ratios

Most commodities that are consumed in Alberta, either as intermediate inputs or through final demand, are not 100 percent produced in Alberta. Often a portion is imported from other parts of Canada or the rest of the world. Table 13, Alberta Commodity Supply Ratios, summarizes the proportion of the supply that comes from within and outside Alberta for each major commodity group. For example, according to the table, 70.8 percent of forestry products and services (code: M11E0) are produced in Alberta, while 25.4 percent come from the rest of Canada and 3.7 percent come from the rest of the world.

The multipliers presented in this publication reflect the impact of output only produced in Alberta. This means that in the case where a commodity is purchased, the total value of the purchase must be adjusted to reflect the value of output from Alberta before the multiplier is applied. An example is outlined below for a $1,000,000 increase in the demand for live animals (M112A):

- 74.3 percent of live animals come from Alberta. Total value = $1,000,000 * 74.3% = $743,000
- The GDP impact = $743,000 * 0.584 = $433,912

Application of the Alberta Multipliers

Due to the limitations of the I/O model, it is unlikely that many of the assumptions and caveats associated with the multipliers would hold fully in the real world. It is important to understand the limitations and apply the multipliers in a reasonable way.

The most common application of multipliers is to estimate the economic impact associated with the establishment of a new firm or the expansion, contraction or closure of existing firms. In these cases, it is preferable to use economic multipliers for relative, rather than absolute, comparisons. This means that while economic multiplier analysis may be used to determine which activity has the largest economic impact, it should not be used to estimate the absolute impact of any single activity. Where multipliers are used to estimate the impacts of a single activity, the results should be treated as general estimates only and not as absolute values.

Projects that rely more on locally produced commodities generate higher impacts than those that rely primarily on imports. The greater the linkages between an industry and other parts of the economy, and the greater the value of these linkages, the larger the industry's multiplier.

The I/O model is largely based on Statistics Canada's I/O tables, several of which are presented in current dollars only. Therefore, since the I/O model describes the Alberta economy in 2009, it is highly recommended to adjust all dollar values to 2009 prices using appropriate price deflator(s), such as the Consumer Price Index, in order to better capture the actual volumes of commodities associated with the impacts.

When using the employment multipliers, users are cautioned that these multipliers show the total number of jobs that are required to support the change in activity being considered, but does not indicate the number of new jobs created. When the economy is running at full employment, it is important to remember that the number of jobs required for a particular project must come from other projects/industries or from outside the province. As indicated above, the I/O model assumes unlimited capacity, whereas in reality, there is a limited number of people in the workforce. Please note that all employment impacts referenced throughout this document are measured in person-years.

The industry multipliers in this publication are at the "Link 1961" level of aggregation, while the commodity multipliers are provided at the "Summary" level. For more detailed impact analysis that considers specific industries or commodities at a more granular level, it may be necessary to do a custom run through Alberta Treasury Board and Finance.

Some of the limitations may be overcome by using an updated industry input structure based on more current data, and subjecting this revised information to a computer simulation using the I/O model developed by Alberta Treasury Board and Finance. If users wish to exercise this option, they should contact Alberta Treasury Board and Finance directly.

Description of Economic Multiplier Tables

In this publication, economic multipliers are presented for GDP at basic prices, labour income, employment and gross production. Below is a brief description of each of the tables contained in this publication and how they should be used. Tables 1 to 4 present results from the Open model, Tables 5 to 8 present results from the Closed model without a Safety Net, and Tables 9 to 12 present results from the Closed model with a Safety Net activated. Table 13 presents commodity supply ratios for Alberta.

For simplicity, all dollar values below are in 2009 prices.

Table 1: **Industry Intensity Ratios**

Open Model

Table 1 presents industry intensity ratios that measure the direct and indirect effects on the Alberta economy due to a change in output for each of the 107 major industries. The multipliers measure the effects on the Alberta economy in terms of GDP at basic prices, labour income, employment and gross production.

The impacts on GDP, labour income and gross production are expressed as impacts per dollar of output change while employment impacts are expressed as the number of jobs per $10,000 of output.

Example:
If there was a $1 million increase in the output of the Residential Building Construction industry (code: BS23A00), the economic impacts would be as follows:

- The impact on GDP at basic prices
  0.697 * $1,000,000 = $697,000.
- The impact on labour income
  0.532 * $1,000,000 = $532,000.
- Employment required for the increase in output
  $1,000,000/$10,000 * 0.078 = 7.8 jobs.
- The impact on gross production
  1.421 * $1,000,000 = $1,421,000.

Table 2: **Industry Multipliers**

Open Model

Table 2 consists of multipliers (direct and indirect) for industries. To use these multipliers, the user must know the direct increase in GDP at basic prices, labour income and the direct number of jobs for which the economic impacts are being analyzed.

- To use the GDP multiplier, the direct GDP content associated with some change in output must be known or calculated. The components of direct GDP are those items which make up labour income, net taxes on production, and a firm's operating surplus (profits, depreciation, etc.). The GDP multiplier is applied to this value.
- To use the labour income multiplier, the direct increase in wages, supplementary labour income and net income of unincorporated businesses must be known or estimated. The labour income multiplier is then applied to this value.
- The employment multiplier is expressed in terms of total number of jobs per direct job. For example, if a firm in Residential Building Construction industry (code: BS23A00) was established and employed 100 people directly, a total of 100 * 1.445 = 144.5 jobs would be required (i.e., 100 direct jobs plus an additional 44.5 indirect jobs). Please note that the multiplier does not distinguish between employee and self-employed jobs.
- The gross production multiplier is expressed in terms of total gross production per dollar of direct production. For this multiplier, the direct production equals the total expenditure or output of the project.

Table 3: **Commodity Intensity Ratios - Basic Prices**

Open Model

Table 3 presents multipliers for the direct and indirect effects on the Alberta economy due to a change in output for each of the 62 commodity groups.

The impacts on GDP and labour income are expressed as impacts per dollar of output change, while employment impacts are expressed as the number of jobs per $10,000 of output. Table 3 presents results calculated for data in basic prices.

Example:
If output of live animals (code: M112A) increased by $10 million in Alberta, the economic impacts would be as follows:

- The impact on GDP at basic prices
  0.606 * $10,000,000 = $6,060,000.
- The impact on labour income
  0.239 * $10,000,000 = $2,390,000.
- Employment required for the increase in demand
  $10,000,000/$10,000 * 0.109 = 109.0 jobs.

Description of Economic Multiplier Tables

Table 4: **Commodity Intensity Ratios - Purchaser Prices**

Open Model

Table 4 is analogous to Table 3 except that it presents results for data in purchaser prices.

Table 5: **Industry Intensity Ratios**

Closed Model

Table 5 is analogous to Table 1, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

Table 6: **Industry Multipliers**

Closed Model

Table 6 is analogous to Table 2 except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

Table 7: **Commodity Intensity Ratios at Basic Prices**

Closed Model

Table 7 is analogous to Table 3, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

Table 8: **Commodity Intensity Ratios at Purchaser Prices**

Closed Model

Table 8 is analogous to Table 4, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

Table 9: **Industry Intensity Ratios**

Closed Model with Safety Net

Table 9 is analogous to Table 5, except that the results are presented with a "safety net" activated.

Table 10: **Industry Multipliers**

Closed Model with Safety Net

Table 10 is analogous to Table 6, except that the results are presented with a "safety net" activated.

Table 11: **Commodity Intensity Ratios at Basic Prices**

Closed Model with Safety Net

Table 11 is analogous to Table 7, except that the results are presented with a "safety net" activated.

Table 12: **Commodity Intensity Ratios at Purchaser Prices**

Closed Model with Safety Net

Table 12 is analogous to Table 8, except that the results are presented with a "safety net" activated.

Table 13: **Commodity Supply Ratios**

Percent

Table 13 shows the source of supply for commodities purchased in Alberta. The data is presented as a percent for Alberta, the rest of Canada, and the rest of world. This table indicates both the extent of "openness" of the Alberta economy and the degree to which the economy depends on imports. For example, 70.8 percent of forestry products and services (code: M11E0) purchased in Alberta were supplied by Alberta domestic production, 25.4 percent were imported from the rest of Canada, and 3.7 percent were imported from outside Canada.

Application of Economic Multipliers

The following example shows how multipliers and intensity ratios are used. In this example, the goal is to analyze which of two projects will provide a greater economic impact on the Alberta economy.

In general, the information available to do the analysis will determine which multiplier is most appropriate to use. For the purposes of this example, the results are presented for the Open model only. The same calculations can be done using the appropriate Closed model tables.

For proper application of the multipliers, all dollar values should be adjusted to 2009 prices using appropriate price deflator(s). For simplicity, all dollar values below are presented in 2009 prices.

The following information is available:

Project 1:

Construction of an establishment in the Wood Product Manufacturing Industry

The plant (establishment) will cost $4 million (in basic prices) to build in 2013. A further $1 million (in purchaser prices) will be spent purchasing industrial machinery. When in operation in 2014, the plant will provide 12 jobs and generate annual sales of $3 million (in basic prices) with the distribution of costs outlined below. For simplicity, net taxes on production and products are ignored.

	(000s)
Wages	$ 825
Profits	$ 100
Depreciation	$ 240
Overhead	$ 35
Materials	$ 1,800
Total Output (Sales)	$ 3,000

Project 2:

Expansion of output by an establishment in the Wholesale Trade Industry

This project expands production by $3 million (in basic prices) in 2013 and 2014.

Analysis of Project 1

To analyze the impact of Project 1, it is necessary to divide the project into two phases. The first phase occurs in 2013 and involves the effects of constructing the plant and purchasing the machinery. The second phase is the economic impacts of the yearly output of the plant beginning in 2014.

Construction Phase of Project 1:

For the impacts associated with the construction of the plant, the appropriate intensity ratios can be found in Table 1, Alberta Industry Intensity Ratios. In this case, the industry here is Non-Residential Building Construction (code: BS23B00).

The construction phase during 2013 would have the following effects:

- The impact on GDP at basic prices
  0.686 * $4,000,000 = $2,744,000.
- The impact on labour income
  0.494 * $4,000,000 = $1,976,000.
- Employment required
  $4,000,000/$10,000 * 0.069 = 27.6 jobs.

The impacts of purchasing the industrial machinery (M3330) in 2013 are estimated by using the appropriate intensity ratios in Table 4, Alberta Commodity Intensity Ratios in Purchaser Prices. Since a commodity is being purchased, Table 13 must be applied to account for the proportion of output coming from Alberta. According to Table 13, 23.5 percent of the industrial machinery purchased in Alberta is produced in the province, so the value of the machinery purchased must be adjusted to reflect this.

The calculated impacts due to machinery purchases are as follows:

- Total value of Alberta machinery = 23.5% * $1,000,000 = $235,000.
- The impact on GDP at basic prices 0.450 * $235,000 = $105,750.
- The impact on labour income 0.359 * $235,000 = $84,365.
- Employment required $235,000/$10,000 * 0.049 = 1.2 jobs.

Alberta clearly derives more economic benefit from the construction activity associated with Project 1 than it does from the purchase of industrial machinery. This is partly due to the higher Alberta content for construction (i.e., local labour and materials) compared with machinery, which is predominately produced outside the province.

Operations Phase of Project 1:

The second phase of impacts associated with Project 1 involves the actual operation of the plant, which would begin operations in 2014. For this phase, the industry tables are used, since the impacts associated with the output of a particular industry are being analyzed. Since both the value of direct output and a breakdown of inputs has been given, either industry intensity ratios (Table 1) or industry multipliers (Table 2) can be used. To use Table 1, the procedure is to locate the appropriate industry and apply the ratios to the value of output. Here, information for the Wood Product Manufacturing industry (BS32100) is used, yielding the following impacts:

- The impact on GDP at basic prices 0.647 * $3,000,000 = $1,941,000.
- The impact on labour income 0.464 * $3,000,000 = $1,392,000.
- Employment required $3,000,000/$10,000 * 0.069 = 20.7 jobs

Since detailed cost information has been provided, the industry multipliers provided in Table 2 can also be used. The first step is to analyze the categories for which cost information has been provided and identify which of these enter into the establishment's operating surplus and thereby directly into GDP at basic prices. As a rule, wages, profits and depreciation are primary inputs (not purchased from another industry) and go directly into GDP. If overhead consists of salaries for administration (as is assumed in this case), this category also enters directly into GDP. Materials and other purchased inputs do not since they are purchased from other industries and involve indirect economic impacts.

Therefore, the cost categories can be allocated as follows:

	(000s)	
Wages	$ 825	Direct GDP
Profit	$ 100	Direct GDP
Depreciation	$ 240	Direct GDP
Overhead	$ 35	Direct GDP
Subtotal	**$ 1,200**	**Direct GDP**
Materials	$ 1,800	Indirect Output
Total	$ 3,000	

Thus, $1,200,000 out of the firm's $3 million gross output constitutes its direct contribution to GDP at basic prices.

Included in this contribution is an estimated $860,000 ($825,000 + $35,000) of direct labour income and 12 direct jobs to which the appropriate multipliers from Table 2 (Wood Product Manufacturing, code: BS32100) would be applied. The impacts are below, based on Table 2:

- The impact on GDP at basic prices 1.640 * $1,200,000 = $1,968,000.
- The impact on labour income 1.509 * $860,000 = $1,297,740.
- Employment required 1.553 * 12.0 direct jobs = 18.6 jobs.

In this example, the results using multipliers from Table 2 are similar to those calculated using the intensity ratios from Table 1. In practice, the multipliers from Table 2 should be used in preference to the intensity ratios from Table 1. Intensity ratios assume an "average" direct contribution to labour income, GDP at basic

prices, and employment, and these factors can vary substantially from industry averages for particular firms. Generally, a more accurate result can be obtained by using actual data for firms and industry multipliers rather than the industry averages implied in the intensity ratios. However, to use Table 2, one must already know the direct impacts on GDP.

Analysis of Project 2

The only information provided for Project 2 is that output will increase by $3 million in 2009 prices in both 2013 and 2014 for an establishment in the Wholesale Trade industry (code: BS41000). Since only industry data on output have been provided, one of the industry tables must be used (Table 1 or 2). As there is no breakdown of costs provided, industry intensity ratios from Table 1, rather than the multipliers from Table 2, must be used.

The $3 million change in the value of output is applied to each intensity ratio, yielding the following total impacts:

- Impact to GDP at basic prices
  0.849 * $3,000,000 = $2,547,000
- Impact on labour income
  0.514 * $3,000,000 = $1,542,000
- $3,000,000/$10,000 * 0.078 = 23.4 jobs required.

Since the output is the same for 2013 and 2014 (i.e., $3 million in 2009 prices), the labour income, GDP and employment impacts would be the same for both years.

Comparison of the Two Projects

The last step in the analysis is to compare the results of the two projects. The following is a summary of the results (note that for Project 1, we have to combine the impacts of the construction activities and the industrial machinery purchases to get total impact for 2013):

	Project 1	Project 2
GDP at Basic prices ($000s):		
2013	2,850	2,547
2014	1,968	2,547
Labour Income ($000s):		
2013	2,060	1,542
2014	1,298	1,542
Employment (Jobs):		
2013	28.8	23.4
2014	18.6	23.4

It is clear that Project 1 has the larger economic impact for 2013. This result is largely due to the construction phase of the plant. If a longer term view is taken, then Project 2 may in fact yield the larger economic benefit. This can be seen by comparing impacts for 2014, for which Project 2 has a greater effect on GDP, labour income, and employment.

It must be remembered that when the economy is in a phase of full employment, an increase in resources in one project may draw resources from other industries, reducing the overall impact. Furthermore, the multipliers used in the above examples reflect the structure of the economy and industry linkages in 2009. If these linkages were to have changed materially by 2013 or 2014, the impacts calculated above will be less valid.

Tables

Table 1: Alberta Industry Intensity Ratios
Open Model - Direct and Indirect Impacts 14
Table 2: Alberta Industry Multipliers
Open Model - Direct and Indirect Impacts 17
Table 3: Alberta Commodity Intensity Ratios in Basic Prices
Open Model - Direct and Indirect Impacts 20
Table 4: Alberta Commodity Intensity Ratios in Purchaser Prices
Open Model - Direct and Indirect Impacts 22
Table 5: Alberta Industry Intensity Ratios
Closed Model - Direct, Indirect and Induced Impacts 24
Table 6: Alberta Industry Multipliers
Closed Model - Direct, Indirect and Induced Impacts 27
Table 7: Alberta Commodity Intensity Ratios in Basic Prices
Closed Model - Direct, Indirect and Induced Impacts 30
Table 8: Alberta Commodity Intensity Ratios in Purchaser Prices
Closed Model - Direct, Indirect and Induced Impacts 32
Table 9: Alberta Industry Intensity Ratios
Closed Model with Safety Net - Direct , Indirect and Induced Impacts 34
Table 10: Alberta Industry Multipliers
Closed Model with Safety Net - Direct , Indirect and Induced Impacts 37
Table 11: Alberta Commodity Intensity Ratios in Basic Prices
Closed Model with Safety Net - Direct, Indirect and Induced Impacts 40
Table 12: Alberta Commodity Intensity Ratios in Purchaser Prices
Closed Model with Safety Net - Direct, Indirect and Induced Impacts 42
Table 13: Alberta Commodity Supply Ratios
Percent 44
Appendix 1:
Industry Concordance: "Link 1961" <--> "Detailed" 46
Appendix 2:
Industry Codes: "Detailed" <-> North American Industry Classification System (NAICS). 50

Table 1: Alberta Industry Intensity Ratios

Open Model - Direct and Indirect Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	0.668	0.219	0.081	1.980
BS11300	Forestry and logging	0.744	0.454	0.071	1.873
BS11400	Fishing, hunting and trapping	0.823	0.593	0.129	1.341
BS11500	Support activities for agriculture and forestry	0.761	0.604	0.107	1.517
BS21100	Oil and gas extraction	0.837	0.276	0.025	1.338
BS21210	Coal mining	0.881	0.319	0.030	1.262
BS21220	Metal ore mining	0.893	0.446	0.439	1.278
BS21230	Non-metal mineral mining and quarrying	0.764	0.300	0.036	1.288
BS21300	Support activities for mining and oil and gas extraction	0.682	0.574	0.064	1.457
BS22110	Electric power generation, transmission and distribution	0.858	0.372	0.029	1.261
BS221A0	Natural gas distribution, water, sewage and other systems	0.886	0.448	0.055	1.316
BS23A00	Residential building construction	0.697	0.532	0.078	1.421
BS23B00	Non-residential building construction	0.686	0.494	0.069	1.452
BS23C10	Transportation engineering construction	0.745	0.535	0.075	1.543
BS23C20	Oil and gas engineering construction	0.705	0.567	0.072	1.664
BS23C30	Electric power engineering construction	0.817	0.404	0.056	1.317
BS23C40	Communication engineering construction	0.572	0.392	0.054	1.452
BS23C50	Other engineering construction	0.731	0.535	0.066	1.423
BS23D00	Repair construction	0.710	0.542	0.082	1.403
BS23E00	Other activities of the construction industry	0.826	0.390	0.047	1.284
BS31110	Animal food manufacturing	0.416	0.219	0.039	1.480
BS31130	Sugar and confectionery product manufacturing	0.585	0.254	0.039	1.369
BS31140	Fruit and vegetable preserving and specialty food manufacturing	0.603	0.360	0.066	1.503
BS31150	Dairy product manufacturing	0.584	0.251	0.071	2.088
BS31160	Meat product manufacturing	0.523	0.295	0.090	2.307
BS31170	Seafood product preparation and packaging	0.517	0.384	0.112	1.302
BS311A0	Miscellaneous food manufacturing	0.616	0.256	0.055	1.708
BS31211	Soft drink and ice manufacturing	0.548	0.257	0.040	1.414
BS31212	Breweries	0.815	0.217	0.031	1.217
BS3121A	Wineries and distilleries	0.706	0.200	0.027	1.178
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	0.673	0.512	0.161	1.305
BS31B00	Clothing and leather and allied product manufacturing	0.705	0.546	0.157	1.324
BS32100	Wood product manufacturing	0.647	0.464	0.069	1.531
BS32210	Pulp, paper and paperboard mills	0.505	0.325	0.038	1.550
BS32220	Converted paper product manufacturing	0.484	0.405	0.062	1.290
BS32300	Printing and related support activities	0.672	0.508	0.086	1.308
BS32400	Petroleum and coal products manufacturing	0.777	0.238	0.023	1.986

Table 1

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32510	Basic chemical manufacturing	0.645	0.250	0.029	1.866
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	0.604	0.237	0.029	1.971
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	0.586	0.253	0.030	1.510
BS32540	Pharmaceutical and medicine manufacturing	0.559	0.454	0.079	1.429
BS325A0	Miscellaneous chemical product manufacturing	0.604	0.278	0.040	1.436
BS32610	Plastic product manufacturing	0.520	0.359	0.059	1.346
BS32620	Rubber product manufacturing	0.430	0.387	0.061	1.224
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	0.658	0.359	0.057	1.326
BS32730	Cement and concrete product manufacturing	0.737	0.381	0.052	1.619
BS33100	Primary metal manufacturing	0.294	0.198	0.024	1.250
BS33200	Fabricated metal product manufacturing	0.549	0.467	0.065	1.350
BS33300	Machinery manufacturing	0.545	0.435	0.059	1.318
BS33410	Computer and peripheral equipment manufacturing	0.813	0.439	0.077	1.232
BS334B0	Electronic product manufacturing	0.642	0.449	0.065	1.233
BS335A0	Electrical equipment and component manufacturing	0.510	0.394	0.053	1.232
BS33520	Household appliance manufacturing	0.633	0.551	0.082	1.404
BS33610	Motor vehicle manufacturing	0.516	0.371	0.046	1.301
BS33620	Motor vehicle body and trailer manufacturing	0.536	0.500	0.079	1.260
BS33630	Other motor vehicle parts manufacturing	0.513	0.452	0.072	1.305
BS33640	Aerospace product and parts manufacturing	0.412	0.287	0.040	1.181
BS33650	Railroad rolling stock manufacturing	0.888	1.362	0.212	1.032
BS33660	Ship and boat building	0.449	0.511	0.076	1.364
BS33690	Other transportation equipment manufacturing	0.555	0.392	0.078	1.173
BS33700	Furniture and related product manufacturing	0.565	0.518	0.103	1.450
BS33900	Miscelleneous manufacturing	0.678	0.509	0.099	1.348
BS41000	Wholesale trade	0.849	0.514	0.078	1.316
BS4A000	Retail trade	0.868	0.612	0.169	1.364
BS48100	Air transportation	0.641	0.406	0.063	1.679
BS48200	Rail transportation	0.865	0.510	0.064	1.379
BS48300	Water transportation	0.765	0.615	0.202	1.428
BS48400	Truck transportation	0.732	0.490	0.090	1.688
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	0.893	0.644	0.122	1.485
BS48600	Pipeline transportation	0.934	0.162	0.014	1.163
BS49A00	Postal service and couriers and messengers	0.835	0.636	0.137	1.476
BS49300	Warehousing and storage	0.854	0.689	0.139	1.241
BS51200	Motion picture and sound recording industries	0.710	0.384	0.099	1.457

Table 1

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS51510	Radio and television broadcasting	0.672	0.459	0.071	1.338
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	0.844	0.307	0.043	1.242
BS52B00	Depository credit intermediation and monetary authorities	0.895	0.484	0.035	1.251
BS52410	Insurance carriers	0.826	0.489	0.066	1.702
BS53110	Lessors of real estate	0.876	0.316	0.046	1.428
BS5311A	Owner-occupied dwellings	0.960	0.367	0.007	1.137
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	0.818	0.411	0.069	1.384
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	0.809	0.598	0.081	1.563
BS541C0	Legal, accounting and architectural, engineering and related services	0.838	0.671	0.089	1.373
BS541D0	Computer systems design and other professional, scientific and technical services	0.849	0.641	0.101	1.389
BS54180	Advertising, public relations and related services	0.834	0.638	0.127	1.438
BS56100	Administrative and support services	0.840	0.628	0.135	1.367
BS56200	Waste management and remediation services	0.907	0.364	0.063	1.226
BS61000	Educational services	0.906	0.661	0.210	1.423
BS62000	Health care services and social assistance	0.885	0.645	0.115	1.250
BS71000	Arts, entertainment and recreation	0.792	0.574	0.201	1.441
BS72000	Accommodation and food services	0.742	0.517	0.159	1.424
BS81100	Repair and maintenance	0.829	0.597	0.113	1.362
BS81A00	Personal services and private households	0.857	0.581	0.219	1.285
BS81300	Professional and similar organisations	0.862	0.685	0.148	1.586
NP61000	Non-profit education services	0.905	0.812	0.166	1.139
NP62400	Non-profit social assistance	0.845	0.744	0.193	1.318
NP71000	Non-profit arts, entertainment and recreation	0.733	0.543	0.160	1.547
NP81310	Religious organizations	0.801	0.646	0.168	1.432
NPA0000	Miscellaneous non-profit institutions serving households	0.783	0.635	0.154	1.478
GS611B0	Educational services	0.933	0.825	0.131	1.199
GS61130	Universities	0.887	0.546	0.077	1.224
GS62200	Hospitals	0.825	0.688	0.126	1.261
GS62300	Nursing and residential care facilities	0.941	0.869	0.120	1.139
GS91100	Other federal government services (including defence)	0.860	0.693	0.088	1.346
GS91200	Other provincial and territorial government services	0.823	0.617	0.084	1.670
GS91300	Other municipal government services	0.887	0.561	0.083	1.298
GS91400	Other aboriginal government services	0.856	0.621	0.136	1.499

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 2: Alberta Industry Multipliers

Open Model - Direct and Indirect Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	2.586	7.597	2.025	1.980
BS11300	Forestry and logging	2.034	2.022	2.035	1.873
BS11400	Fishing, hunting and trapping	1.323	1.326	1.212	1.341
BS11500	Support activities for agriculture and forestry	1.528	1.330	1.285	1.517
BS21100	Oil and gas extraction	1.283	1.898	3.258	1.338
BS21210	Coal mining	1.191	1.348	1.609	1.262
BS21220	Metal ore mining	1.204	1.292	1.047	1.278
BS21230	Non-metal mineral mining and quarrying	1.255	1.381	1.518	1.288
BS21300	Support activities for mining and oil and gas extraction	1.541	1.347	1.517	1.457
BS22110	Electric power generation, transmission and distribution	1.226	1.293	1.627	1.261
BS221A0	Natural gas distribution, water, sewage and other systems	1.249	1.320	1.376	1.316
BS23A00	Residential building construction	1.452	1.379	1.445	1.421
BS23B00	Non-residential building construction	1.526	1.484	1.508	1.452
BS23C10	Transportation engineering construction	1.590	1.459	1.465	1.543
BS23C20	Oil and gas engineering construction	1.833	1.851	1.754	1.664
BS23C30	Electric power engineering construction	1.244	1.367	1.387	1.317
BS23C40	Communication engineering construction	1.789	1.785	1.807	1.452
BS23C50	Other engineering construction	1.412	1.357	1.427	1.423
BS23D00	Repair construction	1.404	1.336	1.406	1.403
BS23E00	Other activities of the construction industry	1.220	1.250	1.377	1.284
BS31110	Animal food manufacturing	2.002	1.896	1.948	1.480
BS31130	Sugar and confectionery product manufacturing	X	X	X	1.369
BS31140	Fruit and vegetable preserving and specialty food manufacturing	X	X	X	1.503
BS31150	Dairy product manufacturing	X	X	X	2.088
BS31160	Meat product manufacturing	3.432	2.305	3.113	2.307
BS31170	Seafood product preparation and packaging	1.386	1.301	1.150	1.302
BS311A0	Miscellaneous food manufacturing	2.134	2.077	2.058	1.708
BS31211	Soft drink and ice manufacturing	X	X	X	1.414
BS31212	Breweries	X	X	X	1.217
BS3121A	Wineries and distilleries	1.166	1.484	1.544	1.178
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	1.358	1.281	1.155	1.305
BS31B00	Clothing and leather and allied product manufacturing	1.338	1.265	1.176	1.324
BS32100	Wood product manufacturing	1.640	1.509	1.553	1.531
BS32210	Pulp, paper and paperboard mills	2.153	2.026	2.722	1.550
BS32220	Converted paper product manufacturing	1.429	1.291	1.300	1.290
BS32300	Printing and related support activities	1.305	1.233	1.205	1.308
BS32400	Petroleum and coal products manufacturing	4.576	6.571	8.212	1.986
BS32510	Basic chemical manufacturing	3.171	4.656	5.392	1.866

Table 2

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3.071	4.265	5.117	1.971
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	X	X	X	1.510
BS32540	Pharmaceutical and medicine manufacturing	1.585	1.342	1.263	1.429
BS325A0	Miscellaneous chemical product manufacturing	X	X	X	1.436
BS32610	Plastic product manufacturing	1.472	1.351	1.312	1.346
BS32620	Rubber product manufacturing	1.413	1.249	1.259	1.224
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	1.384	1.397	1.343	1.326
BS32730	Cement and concrete product manufacturing	1.784	1.832	1.918	1.619
BS33100	Primary metal manufacturing	X	X	X	1.250
BS33200	Fabricated metal product manufacturing	1.476	1.330	1.352	1.350
BS33300	Machinery manufacturing	1.449	1.348	1.393	1.318
BS33410	Computer and peripheral equipment manufacturing	X	X	X	1.232
BS334B0	Electronic product manufacturing	X	X	X	1.233
BS335A0	Electrical equipment and component manufacturing	X	X	X	1.232
BS33520	Household appliance manufacturing	X	X	X	1.404
BS33610	Motor vehicle manufacturing	X	X	X	1.301
BS33620	Motor vehicle body and trailer manufacturing	1.358	1.217	1.198	1.260
BS33630	Other motor vehicle parts manufacturing	1.483	1.328	1.307	1.305
BS33640	Aerospace product and parts manufacturing	1.338	1.309	1.354	1.181
BS33650	Railroad rolling stock manufacturing	X	X	X	1.032
BS33660	Ship and boat building	1.941	1.429	1.380	1.364
BS33690	Other transportation equipment manufacturing	X	X	X	1.173
BS33700	Furniture and related product manufacturing	1.697	1.408	1.345	1.450
BS33900	Miscelleneous manufacturing	1.380	1.300	1.255	1.348
BS41000	Wholesale trade	1.278	1.274	1.303	1.316
BS4A000	Retail trade	1.329	1.259	1.137	1.364
BS48100	Air transportation	X	X	X	1.679
BS48200	Rail transportation	X	X	X	1.379
BS48300	Water transportation	X	X	X	1.428
BS48400	Truck transportation	1.773	1.612	1.535	1.688
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	1.420	1.331	1.293	1.485
BS48600	Pipeline transportation	1.117	1.571	2.154	1.163
BS49A00	Postal service and couriers and messengers	1.424	1.312	1.245	1.476
BS49300	Warehousing and storage	1.194	1.145	1.118	1.241
BS51200	Motion picture and sound recording industries	1.590	1.705	1.428	1.457
BS51510	Radio and television broadcasting	1.410	1.367	1.487	1.338
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	1.208	1.357	1.486	1.242

Table 2

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS52B00	Depository credit intermediation and monetary authorities	1.196	1.247	1.770	1.251
BS52410	Insurance carriers	2.129	2.953	3.701	1.702
BS53110	Lessors of real estate	1.401	2.030	2.303	1.428
BS5311A	Owner-occupied dwellings	1.088	1.161	0.000	1.137
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	1.351	1.455	1.463	1.384
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	1.668	1.534	1.636	1.563
BS541C0	Legal, accounting and architectural, engineering and related services	1.349	1.264	1.370	1.373
BS541D0	Computer systems design and other professional, scientific and technical services	1.380	1.323	1.348	1.389
BS54180	Advertising, public relations and related services	1.455	1.344	1.308	1.438
BS56100	Administrative and support services	1.344	1.270	1.209	1.367
BS56200	Waste management and remediation services	1.158	1.266	1.248	1.226
BS61000	Educational services	1.393	1.275	1.129	1.423
BS62000	Health care services and social assistance	1.205	1.160	1.166	1.250
BS71000	Arts, entertainment and recreation	1.485	1.416	1.208	1.441
BS72000	Accommodation and food services	1.422	1.344	1.196	1.424
BS81100	Repair and maintenance	1.331	1.254	1.228	1.362
BS81A00	Personal services and private households	1.242	1.216	1.095	1.285
BS81300	Professional and similar organizations	1.652	1.468	1.399	1.586
NP61000	Non-profit education services	1.106	1.064	1.049	1.139
NP62400	Non-profit social assistance	1.282	1.178	1.118	1.318
NP71000	Non-profit arts, entertainment and recreation	1.814	1.530	1.269	1.547
NP81310	Religious organizations	1.475	1.308	1.185	1.432
NPA0000	Miscellaneous non-profit institutions serving households	1.573	1.382	1.259	1.478
GS611B0	Educational services	1.145	1.110	1.124	1.199
GS61130	Universities	1.164	1.173	1.248	1.224
GS62200	Hospitals	1.234	1.184	1.200	1.261
GS62300	Nursing and residential care facilities	1.097	1.069	1.106	1.139
GS91100	Other federal government services (including defence)	1.296	1.240	1.348	1.346
GS91200	Other provincial and territorial government services	2.200	2.167	3.023	1.670
GS91300	Other municipal government services	1.250	1.250	1.317	1.298
GS91400	Other aboriginal government services	1.581	1.498	1.343	1.499

Notes: Multipliers for GDP expressed as total impact per direct change in GDP.
Multipliers for Labour Income expressed as total impact per direct change in Labour Income.
Multipliers for Gross Output expressed as total impact per direct change in Gross Output.
Multipliers for Employment expressed as total jobs required per direct job required.
Please note that all employment impacts are measured in person-years.

You must know the direct change in GDP at basic prices, labour income or number of direct jobs required before using these multipliers.

Table 3: Alberta Commodity Intensity Ratios in Basic Prices

Open Model - Direct and Indirect Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.724	0.196	0.052	1.688
M112A	Live animals	0.606	0.239	0.109	2.307
M11D0	Other farm products	0.687	0.222	0.076	1.878
M11E0	Forestry products and services	0.743	0.450	0.070	1.852
M1140	Fish and seafood, live, fresh, chilled or frozen	0.641	0.297	0.112	2.146
M1150	Support services related to farming and forestry	0.689	0.362	0.098	1.955
M21B0	Mineral fuels	0.837	0.275	0.025	1.341
M2122	Metal ores and concentrates	0.893	0.446	0.439	1.278
M2123	Non-metallic minerals	0.756	0.308	0.038	1.303
M2130	Mineral support services	0.678	0.598	0.066	1.448
M21A0	Mineral and oil and gas exploration	0.796	0.325	0.033	1.412
M2200	Utilities	0.862	0.412	0.043	1.296
M23A0	Residential construction	0.697	0.532	0.078	1.421
M23B0	Non-residential buildings	0.686	0.494	0.069	1.452
M23C0	Engineering construction	0.720	0.545	0.070	1.585
M23D0	Repair construction services	0.710	0.542	0.082	1.403
M31C0	Food and non-alcoholic beverages	0.553	0.275	0.072	1.996
M312A	Alcoholic beverages and tobacco products	0.779	0.211	0.029	1.205
M31D0	Textile products, clothing, and products of leather and similar materials	0.706	0.532	0.159	1.339
M3210	Wood products	0.656	0.471	0.071	1.531
M3220	Wood pulp, paper and paper products and paper stock	0.509	0.339	0.042	1.508
M3230	Printed products and services	0.678	0.506	0.086	1.310
M3240	Refined petroleum products (except petrochemicals)	0.777	0.238	0.023	1.985
M3250	Chemical products	0.623	0.250	0.030	1.794
M3260	Plastic and rubber products	0.522	0.366	0.059	1.349
M3270	Non-metallic mineral products	0.717	0.375	0.053	1.541
M3310	Primary metallic products	0.312	0.232	0.029	1.272
M3320	Fabricated metallic products	0.547	0.460	0.065	1.350
M3330	Industrial machinery	0.555	0.443	0.060	1.321
M334C	Computer and electronic products	0.647	0.456	0.066	1.236
M3350	Electrical equipment, appliances and components	0.531	0.406	0.056	1.242
M336A	Transportation equipment	0.482	0.396	0.061	1.223
M3363	Motor vehicle parts	0.526	0.451	0.072	1.299
M3370	Furniture and related products	0.569	0.517	0.102	1.446
M3B00	Other manufactured products and custom work	0.596	0.417	0.075	1.378

Table 3

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M4100	Wholesale margins and commissions	0.840	0.498	0.076	1.323
M4A00	Retail margins, sales of used goods and commissions	0.862	0.604	0.166	1.367
M4B00	Transportation and related services	0.799	0.456	0.079	1.512
M51D0	Information and cultural services	0.754	0.447	0.073	1.362
M51E0	Published and recorded media products	0.764	0.451	0.075	1.352
M5170	Telecommunications	0.865	0.250	0.035	1.212
M52C0	Depository credit intermediation	0.877	0.489	0.040	1.313
M5F00	Other finance, insurance and rights to non-financial intangible assets	0.825	0.579	0.073	1.552
M53D0	Real estate, rental and leasing	0.850	0.404	0.062	1.422
M541E	Professional services excluding software and research and development	0.840	0.651	0.094	1.379
M5E00	Software	0.829	0.549	0.077	1.351
M5417	Research and development	0.853	0.508	0.067	1.389
M5G00	Administrative and support, head office, waste management and remediation services	0.828	0.558	0.113	1.376
M6100	Education services	0.904	0.678	0.133	1.295
M6200	Health and social assistance services	0.879	0.657	0.117	1.263
M7100	Amusement, recreation and gambling services	0.797	0.571	0.170	1.431
M7200	Accommodation and food services	0.747	0.520	0.159	1.422
M8100	Other services	0.838	0.597	0.132	1.344
M9A00	Sales of other services by Non-Profit Institutions Serving Households	0.790	0.632	0.157	1.468
M9B00	Sales of other government services	0.881	0.692	0.086	1.364
N0000	Services provided by Non-Profit Institutions Serving Households	0.804	0.665	0.165	1.416
G6100	Education services provided by government sector	0.925	0.772	0.122	1.198
G6200	Health services provided by government sector	0.843	0.716	0.125	1.242
G9110	Other federal government services	0.854	0.685	0.088	1.357
G9120	Other provincial and territorial government services	0.823	0.617	0.084	1.670
G9130	Other municipal government services	0.887	0.561	0.083	1.298
G9140	Other aboriginal government services	0.856	0.621	0.136	1.499

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 4: Alberta Commodity Intensity Ratios in Purchaser Prices

Open Model - Direct and Indirect Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.685	0.185	0.049	1.596
M112A	Live animals	0.584	0.230	0.105	2.222
M11D0	Other farm products	0.665	0.215	0.074	1.816
M11E0	Forestry products and services	0.734	0.444	0.069	1.828
M1140	Fish and seafood, live, fresh, chilled or frozen	0.447	0.207	0.078	1.495
M1150	Support services related to farming and forestry	0.689	0.362	0.098	1.955
M21B0	Mineral fuels	0.751	0.247	0.023	1.204
M2122	Metal ores and concentrates	0.893	0.446	0.439	1.278
M2123	Non-metallic minerals	0.486	0.198	0.024	0.838
M2130	Mineral support services	0.678	0.598	0.066	1.448
M21A0	Mineral and oil and gas exploration	0.796	0.325	0.033	1.412
M2200	Utilities	0.838	0.401	0.042	1.259
M23A0	Residential construction	0.661	0.504	0.074	1.348
M23B0	Non-residential buildings	0.681	0.490	0.069	1.443
M23C0	Engineering construction	0.720	0.545	0.070	1.585
M23D0	Repair construction services	0.678	0.518	0.078	1.340
M31C0	Food and non-alcoholic beverages	0.407	0.203	0.053	1.470
M312A	Alcoholic beverages and tobacco products	0.469	0.127	0.018	0.725
M31D0	Textile products, clothing, and products of leather and similar materials	0.466	0.352	0.105	0.885
M3210	Wood products	0.488	0.350	0.053	1.138
M3220	Wood pulp, paper and paper products and paper stock	0.470	0.313	0.039	1.393
M3230	Printed products and services	0.480	0.358	0.061	0.927
M3240	Refined petroleum products (except petrochemicals)	0.585	0.180	0.017	1.496
M3250	Chemical products	0.538	0.216	0.026	1.547
M3260	Plastic and rubber products	0.355	0.249	0.040	0.916
M3270	Non-metallic mineral products	0.595	0.312	0.044	1.280
M3310	Primary metallic products	0.309	0.230	0.029	1.261
M3320	Fabricated metallic products	0.489	0.411	0.058	1.206
M3330	Industrial machinery	0.450	0.359	0.049	1.071
M334C	Computer and electronic products	0.545	0.385	0.056	1.042
M3350	Electrical equipment, appliances and components	0.440	0.336	0.046	1.029
M336A	Transportation equipment	0.431	0.355	0.055	1.095
M3363	Motor vehicle parts	0.340	0.292	0.046	0.840
M3370	Furniture and related products	0.456	0.414	0.082	1.159
M3B00	Other manufactured products and custom work	0.494	0.346	0.062	1.142
M4100	Wholesale margins and commissions	0.840	0.498	0.076	1.323

Table 4

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M4A00	Retail margins, sales of used goods and commissions	0.862	0.604	0.166	1.367
M4B00	Transportation and related services	0.785	0.448	0.078	1.486
M51D0	Information and cultural services	0.746	0.442	0.072	1.347
M51E0	Published and recorded media products	0.598	0.353	0.059	1.059
M5170	Telecommunications	0.826	0.239	0.033	1.157
M52C0	Depository credit intermediation	0.875	0.488	0.040	1.312
M5F00	Other finance, insurance and rights to non-financial intangible assets	0.825	0.579	0.073	1.552
M53D0	Real estate, rental and leasing	0.840	0.400	0.062	1.405
M541E	Professional services excluding software and research and development	0.814	0.632	0.091	1.337
M5E00	Software	0.820	0.543	0.076	1.336
M5417	Research and development	0.853	0.508	0.067	1.388
M5G00	Administrative and support, head office, waste management and remediation services	0.815	0.549	0.111	1.353
M6100	Education services	0.896	0.671	0.132	1.282
M6200	Health and social assistance services	0.879	0.657	0.117	1.262
M7100	Amusement, recreation and gambling services	0.634	0.455	0.135	1.139
M7200	Accommodation and food services	0.711	0.495	0.151	1.354
M8100	Other services	0.802	0.572	0.126	1.287
M9A00	Sales of other services by Non-Profit Institutions Serving Households	0.790	0.632	0.157	1.468
M9B00	Sales of other government services	0.881	0.692	0.086	1.364
N0000	Services provided by Non-Profit Institutions Serving Households	0.804	0.665	0.165	1.416
G6100	Education services provided by government sector	0.925	0.772	0.122	1.198
G6200	Health services provided by government sector	0.843	0.716	0.125	1.242
G9110	Other federal government services	0.854	0.685	0.088	1.357
G9120	Other provincial and territorial government services	0.823	0.617	0.084	1.670
G9130	Other municipal government services	0.887	0.561	0.083	1.298
G9140	Other aboriginal government services	0.856	0.621	0.136	1.499

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 5: Alberta Industry Intensity Ratios

Closed Model - Direct, Indirect and Induced Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	0.748	0.262	0.088	2.110
BS11300	Forestry and logging	0.890	0.534	0.086	2.115
BS11400	Fishing, hunting and trapping	1.044	0.714	0.151	1.705
BS11500	Support activities for agriculture and forestry	0.979	0.723	0.128	1.876
BS21100	Oil and gas extraction	0.926	0.324	0.034	1.484
BS21210	Coal mining	0.972	0.369	0.039	1.412
BS21220	Metal ore mining	1.077	0.547	0.457	1.582
BS21230	Non-metal mineral mining and quarrying	0.857	0.351	0.045	1.441
BS21300	Support activities for mining and oil and gas extraction	0.872	0.678	0.082	1.769
BS22110	Electric power generation, transmission and distribution	0.968	0.431	0.039	1.442
BS221A0	Natural gas distribution, water, sewage and other systems	1.044	0.534	0.071	1.576
BS23A00	Residential building construction	0.886	0.635	0.096	1.732
BS23B00	Non-residential building construction	0.859	0.588	0.086	1.738
BS23C10	Transportation engineering construction	0.935	0.639	0.094	1.856
BS23C20	Oil and gas engineering construction	0.898	0.672	0.091	1.981
BS23C30	Electric power engineering construction	0.959	0.481	0.070	1.550
BS23C40	Communication engineering construction	0.707	0.466	0.067	1.675
BS23C50	Other engineering construction	0.914	0.634	0.084	1.724
BS23D00	Repair construction	0.904	0.648	0.101	1.722
BS23E00	Other activities of the construction industry	0.960	0.463	0.060	1.505
BS31110	Animal food manufacturing	0.491	0.259	0.046	1.603
BS31130	Sugar and confectionery product manufacturing	0.666	0.298	0.046	1.502
BS31140	Fruit and vegetable preserving and specialty food manufacturing	0.721	0.425	0.077	1.697
BS31150	Dairy product manufacturing	0.670	0.298	0.079	2.229
BS31160	Meat product manufacturing	0.629	0.352	0.101	2.480
BS31170	Seafood product preparation and packaging	0.662	0.463	0.126	1.541
BS311A0	Miscellaneous food manufacturing	0.706	0.306	0.064	1.857
BS31211	Soft drink and ice manufacturing	0.630	0.302	0.048	1.550
BS31212	Breweries	0.882	0.253	0.037	1.328
BS3121A	Wineries and distilleries	0.773	0.236	0.033	1.287
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	0.866	0.617	0.180	1.624
BS31B00	Clothing and leather and allied product manufacturing	0.915	0.661	0.178	1.670
BS32100	Wood product manufacturing	0.799	0.547	0.084	1.782
BS32210	Pulp, paper and paperboard mills	0.604	0.379	0.047	1.712
BS32220	Converted paper product manufacturing	0.620	0.479	0.075	1.515
BS32300	Printing and related support activities	0.847	0.603	0.103	1.596
BS32400	Petroleum and coal products manufacturing	0.853	0.279	0.030	2.111

Table 5

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32510	Basic chemical manufacturing	0.726	0.294	0.037	2.000
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	0.680	0.278	0.036	2.096
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	0.668	0.297	0.038	1.644
BS32540	Pharmaceutical and medicine manufacturing	0.717	0.540	0.095	1.688
BS325A0	Miscellaneous chemical product manufacturing	0.700	0.331	0.049	1.594
BS32610	Plastic product manufacturing	0.640	0.424	0.070	1.543
BS32620	Rubber product manufacturing	0.550	0.453	0.073	1.423
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	0.779	0.425	0.069	1.525
BS32730	Cement and concrete product manufacturing	0.860	0.448	0.064	1.821
BS33100	Primary metal manufacturing	0.353	0.230	0.029	1.347
BS33200	Fabricated metal product manufacturing	0.706	0.553	0.081	1.608
BS33300	Machinery manufacturing	0.691	0.515	0.073	1.558
BS33410	Computer and peripheral equipment manufacturing	0.965	0.522	0.091	1.483
BS334B0	Electronic product manufacturing	0.795	0.533	0.080	1.486
BS335A0	Electrical equipment and component manufacturing	0.637	0.463	0.065	1.441
BS33520	Household appliance manufacturing	0.804	0.644	0.098	1.686
BS33610	Motor vehicle manufacturing	0.629	0.432	0.057	1.487
BS33620	Motor vehicle body and trailer manufacturing	0.708	0.594	0.096	1.544
BS33630	Other motor vehicle parts manufacturing	0.659	0.531	0.086	1.546
BS33640	Aerospace product and parts manufacturing	0.504	0.337	0.049	1.333
BS33650	Railroad rolling stock manufacturing	1.260	1.565	0.248	1.645
BS33660	Ship and boat building	0.624	0.606	0.093	1.653
BS33690	Other transportation equipment manufacturing	0.694	0.468	0.091	1.402
BS33700	Furniture and related product manufacturing	0.748	0.618	0.121	1.751
BS33900	Miscelleneous manufacturing	0.864	0.610	0.117	1.655
BS41000	Wholesale trade	1.028	0.612	0.095	1.610
BS4A000	Retail trade	1.099	0.738	0.191	1.743
BS48100	Air transportation	0.776	0.480	0.076	1.903
BS48200	Rail transportation	1.028	0.600	0.080	1.648
BS48300	Water transportation	1.004	0.745	0.225	1.821
BS48400	Truck transportation	0.907	0.586	0.107	1.976
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	1.117	0.767	0.143	1.855
BS48600	Pipeline transportation	0.981	0.188	0.019	1.241
BS49A00	Postal service and couriers and messengers	1.054	0.756	0.159	1.836
BS49300	Warehousing and storage	1.092	0.819	0.162	1.633
BS51200	Motion picture and sound recording industries	0.850	0.460	0.112	1.687
BS51510	Radio and television broadcasting	0.829	0.544	0.087	1.596

Table 5

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	0.943	0.361	0.052	1.404
BS52B00	Depository credit intermediation and monetary authorities	1.045	0.566	0.050	1.499
BS52410	Insurance carriers	0.998	0.583	0.083	1.985
BS53110	Lessors of real estate	0.987	0.377	0.057	1.611
BS5311A	Owner-occupied dwellings	1.132	0.460	0.023	1.420
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	0.963	0.490	0.083	1.623
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	1.020	0.713	0.101	1.909
BS541C0	Legal, accounting and architectural, engineering and related services	1.075	0.801	0.112	1.764
BS541D0	Computer systems design and other professional, scientific and technical services	1.080	0.767	0.124	1.769
BS54180	Advertising, public relations and related services	1.068	0.765	0.150	1.824
BS56100	Administrative and support services	1.073	0.755	0.158	1.750
BS56200	Waste management and remediation services	1.037	0.435	0.076	1.440
BS61000	Educational services	1.155	0.797	0.234	1.833
BS62000	Health care services and social assistance	1.121	0.774	0.138	1.640
BS71000	Arts, entertainment and recreation	1.016	0.697	0.223	1.810
BS72000	Accommodation and food services	0.942	0.626	0.178	1.753
BS81100	Repair and maintenance	1.048	0.716	0.135	1.724
BS81A00	Personal services and private households	1.095	0.711	0.243	1.677
BS81300	Professional and similar organisations	1.120	0.826	0.173	2.011
NP61000	Non-profit education services	1.201	0.973	0.195	1.625
NP62400	Non-profit social assistance	1.121	0.894	0.220	1.773
NP71000	Non-profit arts, entertainment and recreation	0.937	0.654	0.180	1.884
NP81310	Religious organizations	1.036	0.774	0.191	1.819
NPA0000	Miscellaneous non-profit institutions serving households	1.018	0.763	0.177	1.866
GS611B0	Educational services	1.197	0.969	0.157	1.633
GS61130	Universities	1.065	0.644	0.094	1.519
GS62200	Hospitals	1.056	0.814	0.148	1.643
GS62300	Nursing and residential care facilities	1.229	1.026	0.148	1.613
GS91100	Other federal government services (including defence)	1.076	0.811	0.109	1.702
GS91200	Other provincial and territorial government services	1.032	0.731	0.104	2.014
GS91300	Other municipal government services	1.058	0.655	0.100	1.579
GS91400	Other aboriginal government services	1.079	0.742	0.158	1.866

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 6: Alberta Industry Multipliers

Closed Model - Direct, Indirect and Induced Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	2.893	9.098	2.219	2.110
BS11300	Forestry and logging	2.435	2.379	2.443	2.115
BS11400	Fishing, hunting and trapping	1.678	1.595	1.414	1.705
BS11500	Support activities for agriculture and forestry	1.965	1.592	1.540	1.876
BS21100	Oil and gas extraction	1.419	2.231	4.381	1.484
BS21210	Coal mining	1.314	1.558	2.078	1.412
BS21220	Metal ore mining	1.454	1.583	1.090	1.582
BS21230	Non-metal mineral mining and quarrying	1.407	1.614	1.905	1.441
BS21300	Support activities for mining and oil and gas extraction	1.970	1.589	1.957	1.769
BS22110	Electric power generation, transmission and distribution	1.383	1.502	2.235	1.442
BS221A0	Natural gas distribution, water, sewage and other systems	1.472	1.575	1.761	1.576
BS23A00	Residential building construction	1.845	1.646	1.787	1.732
BS23B00	Non-residential building construction	1.912	1.769	1.876	1.738
BS23C10	Transportation engineering construction	1.997	1.743	1.828	1.856
BS23C20	Oil and gas engineering construction	2.332	2.193	2.211	1.981
BS23C30	Electric power engineering construction	1.460	1.630	1.728	1.550
BS23C40	Communication engineering construction	2.212	2.122	2.247	1.675
BS23C50	Other engineering construction	1.765	1.611	1.812	1.724
BS23D00	Repair construction	1.787	1.597	1.729	1.722
BS23E00	Other activities of the construction industry	1.419	1.485	1.757	1.505
BS31110	Animal food manufacturing	2.362	2.249	2.310	1.603
BS31130	Sugar and confectionery product manufacturing	X	X	X	1.502
BS31140	Fruit and vegetable preserving and specialty food manufacturing	X	X	X	1.697
BS31150	Dairy product manufacturing	X	X	X	2.229
BS31160	Meat product manufacturing	4.121	2.753	3.467	2.480
BS31170	Seafood product preparation and packaging	1.777	1.570	1.296	1.541
BS311A0	Miscellaneous food manufacturing	2.449	2.479	2.390	1.857
BS31211	Soft drink and ice manufacturing	X	X	X	1.550
BS31212	Breweries	X	X	X	1.328
BS3121A	Wineries and distilleries	1.276	1.752	1.918	1.287
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	1.748	1.545	1.290	1.624
BS31B00	Clothing and leather and allied product manufacturing	1.736	1.530	1.329	1.670
BS32100	Wood product manufacturing	2.026	1.779	1.889	1.782
BS32210	Pulp, paper and paperboard mills	2.574	2.362	3.415	1.712
BS32220	Converted paper product manufacturing	1.831	1.528	1.579	1.515
BS32300	Printing and related support activities	1.645	1.465	1.444	1.596
BS32400	Petroleum and coal products manufacturing	5.024	7.717	10.865	2.111

Table 6

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32510	Basic chemical manufacturing	3.570	5.481	6.869	2.000
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3.458	5.014	6.431	2.096
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	X	X	X	1.644
BS32540	Pharmaceutical and medicine manufacturing	2.032	1.597	1.507	1.688
BS325A0	Miscellaneous chemical product manufacturing	X	X	X	1.594
BS32610	Plastic product manufacturing	1.809	1.596	1.572	1.543
BS32620	Rubber product manufacturing	1.810	1.461	1.501	1.423
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	1.638	1.653	1.621	1.525
BS32730	Cement and concrete product manufacturing	2.080	2.154	2.362	1.821
BS33100	Primary metal manufacturing	X	X	X	1.347
BS33200	Fabricated metal product manufacturing	1.898	1.573	1.668	1.608
BS33300	Machinery manufacturing	1.836	1.594	1.730	1.558
BS33410	Computer and peripheral equipment manufacturing	X	X	X	1.483
BS334B0	Electronic product manufacturing	X	X	X	1.486
BS335A0	Electrical equipment and component manufacturing	X	X	X	1.441
BS33520	Household appliance manufacturing	X	X	X	1.686
BS33610	Motor vehicle manufacturing	X	X	X	1.487
BS33620	Motor vehicle body and trailer manufacturing	1.796	1.446	1.452	1.544
BS33630	Other motor vehicle parts manufacturing	1.907	1.563	1.566	1.546
BS33640	Aerospace product and parts manufacturing	1.636	1.538	1.656	1.333
BS33650	Railroad rolling stock manufacturing	X	X	X	1.645
BS33660	Ship and boat building	2.698	1.697	1.691	1.653
BS33690	Other transportation equipment manufacturing	X	X	X	1.402
BS33700	Furniture and related product manufacturing	2.246	1.679	1.579	1.751
BS33900	Miscelleneous manufacturing	1.758	1.560	1.485	1.655
BS41000	Wholesale trade	1.547	1.515	1.595	1.610
BS4A000	Retail trade	1.682	1.518	1.289	1.743
BS48100	Air transportation	X	X	X	1.903
BS48200	Rail transportation	X	X	X	1.648
BS48300	Water transportation	X	X	X	1.821
BS48400	Truck transportation	2.196	1.925	1.824	1.976
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	1.778	1.584	1.526	1.855
BS48600	Pipeline transportation	1.173	1.819	2.833	1.241
BS49A00	Postal service and couriers and messengers	1.797	1.559	1.438	1.836
BS49300	Warehousing and storage	1.527	1.361	1.305	1.633
BS51200	Motion picture and sound recording industries	1.903	2.044	1.625	1.687
BS51510	Radio and television broadcasting	1.740	1.622	1.805	1.596
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	1.348	1.594	1.819	1.404

Table 6

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS52B00	Depository credit intermediation and monetary authorities	1.397	1.458	2.505	1.499
BS52410	Insurance carriers	2.571	3.518	4.637	1.985
BS53110	Lessors of real estate	1.579	2.420	2.849	1.611
BS5311A	Owner-occupied dwellings	1.283	1.458	0.000	1.420
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	1.591	1.735	1.762	1.623
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	2.102	1.828	2.050	1.909
BS541C0	Legal, accounting and architectural, engineering and related services	1.732	1.508	1.728	1.764
BS541D0	Computer systems design and other professional, scientific and technical services	1.755	1.583	1.648	1.769
BS54180	Advertising, public relations and related services	1.864	1.613	1.542	1.824
BS56100	Administrative and support services	1.716	1.527	1.412	1.750
BS56200	Waste management and remediation services	1.323	1.512	1.497	1.440
BS61000	Educational services	1.775	1.537	1.260	1.833
BS62000	Health care services and social assistance	1.527	1.392	1.400	1.640
BS71000	Arts, entertainment and recreation	1.907	1.718	1.339	1.810
BS72000	Accommodation and food services	1.805	1.628	1.342	1.753
BS81100	Repair and maintenance	1.683	1.505	1.460	1.724
BS81A00	Personal services and private households	1.587	1.488	1.211	1.677
BS81300	Professional and similar organisations	2.147	1.770	1.637	2.011
NP61000	Non-profit education services	1.466	1.275	1.230	1.625
NP62400	Non-profit social assistance	1.702	1.417	1.274	1.773
NP71000	Non-profit arts, entertainment and recreation	2.320	1.845	1.427	1.884
NP81310	Religious organizations	1.908	1.568	1.347	1.819
NPA0000	Miscellaneous non-profit institutions serving households	2.047	1.662	1.447	1.866
GS611B0	Educational services	1.469	1.304	1.344	1.633
GS61130	Universities	1.399	1.383	1.530	1.519
GS62200	Hospitals	1.581	1.401	1.416	1.643
GS62300	Nursing and residential care facilities	1.432	1.262	1.365	1.613
GS91100	Other federal government services (including defence)	1.622	1.451	1.669	1.702
GS91200	Other provincial and territorial government services	2.759	2.568	3.758	2.014
GS91300	Other municipal government services	1.491	1.457	1.580	1.579
GS91400	Other aboriginal government services	1.992	1.791	1.557	1.866

Notes: Multipliers for GDP expressed as total impact per direct change in GDP.
Multipliers for Labour Income expressed as total impact per direct change in Labour Income.
Multipliers for Gross Output expressed as total impact per direct change in Gross Output.
Multipliers for Employment expressed as total jobs required per direct job required.
Please note that all employment impacts are measured in person-years.

You must know the direct change in GDP at basic prices, labour income or number of direct jobs required before using these multipliers.

Table 7: Alberta Commodity Intensity Ratios in Basic Prices

Closed Model - Direct, Indirect and Induced Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.796	0.235	0.059	1.806
M112A	Live animals	0.691	0.285	0.117	2.447
M11D0	Other farm products	0.769	0.267	0.084	2.012
M11E0	Forestry products and services	0.889	0.530	0.084	2.091
M1140	Fish and seafood, live, fresh, chilled or frozen	0.749	0.355	0.123	2.323
M1150	Support services related to farming and forestry	0.818	0.432	0.111	2.167
M21B0	Mineral fuels	0.925	0.323	0.034	1.486
M2122	Metal ores and concentrates	1.077	0.547	0.457	1.582
M2123	Non-metallic minerals	0.852	0.361	0.047	1.462
M2130	Mineral support services	0.875	0.705	0.085	1.772
M21A0	Mineral and oil and gas exploration	0.903	0.384	0.044	1.589
M2200	Utilities	0.991	0.483	0.056	1.508
M23A0	Residential construction	0.886	0.635	0.096	1.732
M23B0	Non-residential buildings	0.859	0.588	0.086	1.738
M23C0	Engineering construction	0.907	0.647	0.089	1.893
M23D0	Repair construction services	0.904	0.648	0.101	1.722
M31C0	Food and non-alcoholic beverages	0.649	0.328	0.081	2.154
M312A	Alcoholic beverages and tobacco products	0.846	0.248	0.036	1.315
M31D0	Textile products, clothing, and products of leather and similar materials	0.908	0.643	0.179	1.672
M3210	Wood products	0.811	0.556	0.086	1.787
M3220	Wood pulp, paper and paper products and paper stock	0.614	0.396	0.052	1.682
M3230	Printed products and services	0.852	0.601	0.103	1.597
M3240	Refined petroleum products (except petrochemicals)	0.853	0.280	0.031	2.111
M3250	Chemical products	0.705	0.295	0.038	1.928
M3260	Plastic and rubber products	0.643	0.432	0.071	1.548
M3270	Non-metallic mineral products	0.839	0.442	0.065	1.742
M3310	Primary metallic products	0.383	0.271	0.036	1.389
M3320	Fabricated metallic products	0.701	0.544	0.080	1.604
M3330	Industrial machinery	0.703	0.524	0.075	1.566
M334C	Computer and electronic products	0.803	0.541	0.081	1.493
M3350	Electrical equipment, appliances and components	0.663	0.478	0.069	1.459
M336A	Transportation equipment	0.615	0.469	0.074	1.443

Table 7

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M3363	Motor vehicle parts	0.673	0.531	0.086	1.540
M3370	Furniture and related products	0.752	0.616	0.120	1.746
M3B00	Other manufactured products and custom work	0.743	0.497	0.089	1.620
M4100	Wholesale margins and commissions	1.013	0.592	0.093	1.608
M4A00	Retail margins, sales of used goods and commissions	1.090	0.728	0.188	1.741
M4B00	Transportation and related services	0.955	0.541	0.095	1.769
M51D0	Information and cultural services	0.909	0.532	0.088	1.616
M51E0	Published and recorded media products	0.920	0.536	0.090	1.608
M5170	Telecommunications	0.942	0.292	0.042	1.338
M52C0	Depository credit intermediation	1.031	0.574	0.055	1.568
M5F00	Other finance, insurance and rights to non-financial intangible assets	1.025	0.688	0.093	1.881
M53D0	Real estate, rental and leasing	0.992	0.482	0.076	1.656
M541E	Professional services excluding software and research and development	1.072	0.778	0.117	1.761
M5E00	Software	1.016	0.651	0.095	1.659
M5417	Research and development	1.023	0.600	0.083	1.668
M5G00	Administrative and support, head office, waste management and remediation services	1.031	0.668	0.133	1.709
M6100	Education services	1.137	0.805	0.156	1.679
M6200	Health and social assistance services	1.117	0.787	0.140	1.655
M7100	Amusement, recreation and gambling services	1.010	0.687	0.191	1.782
M7200	Accommodation and food services	0.947	0.629	0.179	1.752
M8100	Other services	1.059	0.718	0.153	1.708
M9A00	Sales of other services by Non-Profit Institutions Serving Households	1.025	0.760	0.180	1.855
M9B00	Sales of other government services	1.095	0.809	0.107	1.717
N0000	Services provided by Non-Profit Institutions Serving Households	1.049	0.799	0.189	1.820
G6100	Education services provided by government sector	1.172	0.906	0.146	1.605
G6200	Health services provided by government sector	1.084	0.848	0.148	1.638
G9110	Other federal government services	1.069	0.802	0.109	1.710
G9120	Other provincial and territorial government services	1.032	0.731	0.104	2.014
G9130	Other municipal government services	1.058	0.655	0.100	1.579
G9140	Other aboriginal government services	1.079	0.742	0.158	1.866

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 8: Alberta Commodity Intensity Ratios in Purchaser Prices

Closed Model - Direct, Indirect and Induced Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.752	0.222	0.056	1.707
M112A	Live animals	0.666	0.275	0.113	2.357
M11D0	Other farm products	0.743	0.258	0.082	1.945
M11E0	Forestry products and services	0.877	0.523	0.083	2.064
M1140	Fish and seafood, live, fresh, chilled or frozen	0.522	0.248	0.086	1.619
M1150	Support services related to farming and forestry	0.818	0.432	0.111	2.167
M21B0	Mineral fuels	0.831	0.290	0.030	1.335
M2122	Metal ores and concentrates	1.077	0.547	0.457	1.582
M2123	Non-metallic minerals	0.548	0.232	0.030	0.939
M2130	Mineral support services	0.875	0.705	0.085	1.772
M21A0	Mineral and oil and gas exploration	0.903	0.384	0.044	1.589
M2200	Utilities	0.963	0.469	0.054	1.466
M23A0	Residential construction	0.840	0.602	0.091	1.643
M23B0	Non-residential buildings	0.854	0.584	0.086	1.727
M23C0	Engineering construction	0.907	0.647	0.088	1.892
M23D0	Repair construction services	0.863	0.619	0.097	1.645
M31C0	Food and non-alcoholic beverages	0.478	0.241	0.060	1.587
M312A	Alcoholic beverages and tobacco products	0.509	0.149	0.022	0.791
M31D0	Textile products, clothing, and products of leather and similar materials	0.600	0.425	0.118	1.105
M3210	Wood products	0.603	0.413	0.064	1.328
M3220	Wood pulp, paper and paper products and paper stock	0.567	0.366	0.048	1.553
M3230	Printed products and services	0.603	0.425	0.073	1.130
M3240	Refined petroleum products (except petrochemicals)	0.643	0.211	0.023	1.591
M3250	Chemical products	0.608	0.254	0.033	1.663
M3260	Plastic and rubber products	0.437	0.293	0.048	1.052
M3270	Non-metallic mineral products	0.697	0.367	0.054	1.447
M3310	Primary metallic products	0.380	0.268	0.035	1.377
M3320	Fabricated metallic products	0.627	0.486	0.072	1.433
M3330	Industrial machinery	0.570	0.424	0.060	1.269
M3350	Electrical equipment, appliances and components	0.550	0.396	0.057	1.210
M336A	Transportation equipment	0.551	0.420	0.066	1.292
M3363	Motor vehicle parts	0.435	0.344	0.056	0.997
M3370	Furniture and related products	0.602	0.494	0.096	1.399
M3B00	Other manufactured products and custom work	0.616	0.412	0.074	1.343
M4100	Wholesale margins and commissions	1.013	0.592	0.093	1.608

Table 8

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M4A00	Retail margins, sales of used goods and commissions	1.090	0.728	0.188	1.741
M4B00	Transportation and related services	0.939	0.532	0.093	1.738
M51D0	Information and cultural services	0.899	0.526	0.087	1.599
M51E0	Published and recorded media products	0.720	0.420	0.071	1.259
M5170	Telecommunications	0.899	0.279	0.040	1.278
M52C0	Depository credit intermediation	1.030	0.573	0.055	1.566
M5F00	Other finance, insurance and rights to non-financial intangible assets	1.025	0.688	0.093	1.881
M53D0	Real estate, rental and leasing	0.980	0.476	0.075	1.636
M541E	Professional services excluding software and research and development	1.039	0.755	0.113	1.708
M5E00	Software	1.004	0.643	0.094	1.640
M5417	Research and development	1.023	0.600	0.083	1.668
M5G00	Administrative and support, head office, waste management and remediation services	1.014	0.657	0.130	1.681
M6100	Education services	1.126	0.797	0.155	1.662
M6200	Health and social assistance services	1.117	0.787	0.140	1.654
M7100	Amusement, recreation and gambling services	0.804	0.547	0.152	1.419
M7200	Accommodation and food services	0.902	0.599	0.170	1.668
M8100	Other services	1.014	0.687	0.147	1.636
M9A00	Sales of other services by Non-Profit Institutions Serving Households	1.025	0.760	0.180	1.855
M9B00	Sales of other government services	1.095	0.809	0.107	1.717
N0000	Services provided by Non-Profit Institutions Serving Households	1.049	0.799	0.189	1.820
G6100	Education services provided by government sector	1.172	0.906	0.146	1.605
G6200	Health services provided by government sector	1.084	0.848	0.148	1.638
G9110	Other federal government services	1.069	0.802	0.109	1.710
G9120	Other provincial and territorial government services	1.032	0.731	0.104	2.014
G9130	Other municipal government services	1.058	0.655	0.100	1.579
G9140	Other aboriginal government services	1.079	0.742	0.158	1.866

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 9: Alberta Industry Intensity Ratios

Closed Model with Safety Net - Direct, Indirect and Induced Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	0.703	0.238	0.084	2.037
BS11300	Forestry and logging	0.793	0.481	0.076	0.008
BS11400	Fishing, hunting and trapping	0.906	0.639	0.138	0.012
BS11500	Support activities for agriculture and forestry	0.840	0.647	0.115	0.012
BS21100	Oil and gas extraction	0.892	0.305	0.030	0.005
BS21210	Coal mining	0.930	0.346	0.035	0.005
BS21220	Metal ore mining	0.963	0.485	0.446	0.010
BS21230	Non-metal mineral mining and quarrying	0.806	0.323	0.040	0.005
BS21300	Support activities for mining and oil and gas extraction	0.782	0.629	0.074	0.010
BS22110	Electric power generation, transmission and distribution	0.922	0.406	0.035	0.006
BS221A0	Natural gas distribution, water, sewage and other systems	0.958	0.487	0.062	0.009
BS23A00	Residential building construction	0.782	0.578	0.086	0.010
BS23B00	Non-residential building construction	0.763	0.536	0.077	0.010
BS23C10	Transportation engineering construction	0.830	0.582	0.083	0.010
BS23C20	Oil and gas engineering construction	0.796	0.617	0.081	0.011
BS23C30	Electric power engineering construction	0.874	0.435	0.062	0.008
BS23C40	Communication engineering construction	0.631	0.424	0.060	0.007
BS23C50	Other engineering construction	0.824	0.585	0.075	0.010
BS23D00	Repair construction	0.796	0.589	0.091	0.011
BS23E00	Other activities of the construction industry	0.892	0.426	0.054	0.007
BS31110	Animal food manufacturing	0.445	0.234	0.042	0.004
BS31130	Sugar and confectionery product manufacturing	0.613	0.270	0.041	0.004
BS31140	Fruit and vegetable preserving and specialty food manufacturing	0.649	0.385	0.070	0.006
BS31150	Dairy product manufacturing	0.618	0.270	0.074	0.005
BS31160	Meat product manufacturing	0.566	0.318	0.094	0.006
BS31170	Seafood product preparation and packaging	0.572	0.414	0.117	0.008
BS311A0	Miscellaneous food manufacturing	0.652	0.276	0.058	0.005
BS31211	Soft drink and ice manufacturing	0.577	0.273	0.043	0.004
BS31212	Breweries	0.841	0.231	0.033	0.004
BS3121A	Wineries and distilleries	0.736	0.216	0.030	0.004
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	0.745	0.551	0.168	0.011
BS31B00	Clothing and leather and allied product manufacturing	0.799	0.597	0.166	0.011
BS32100	Wood product manufacturing	0.710	0.498	0.075	0.008
BS32210	Pulp, paper and paperboard mills	0.555	0.352	0.043	0.005
BS32220	Converted paper product manufacturing	0.539	0.435	0.067	0.007
BS32300	Printing and related support activities	0.741	0.546	0.093	0.010
BS32400	Petroleum and coal products manufacturing	0.822	0.262	0.027	0.004
BS32510	Basic chemical manufacturing	0.688	0.273	0.033	0.004

Table 9

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	0.642	0.258	0.033	0.004
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	0.628	0.275	0.034	0.004
BS32540	Pharmaceutical and medicine manufacturing	0.615	0.485	0.085	0.009
BS325A0	Miscellaneous chemical product manufacturing	0.649	0.303	0.044	0.005
BS32610	Plastic product manufacturing	0.560	0.381	0.063	0.007
BS32620	Rubber product manufacturing	0.478	0.413	0.066	0.007
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	0.708	0.387	0.062	0.007
BS32730	Cement and concrete product manufacturing	0.791	0.410	0.057	0.007
BS33100	Primary metal manufacturing	0.322	0.213	0.026	0.003
BS33200	Fabricated metal product manufacturing	0.615	0.504	0.072	0.009
BS33300	Machinery manufacturing	0.609	0.470	0.065	0.008
BS33410	Computer and peripheral equipment manufacturing	0.867	0.468	0.082	0.008
BS334B0	Electronic product manufacturing	0.704	0.483	0.071	0.008
BS335A0	Electrical equipment and component manufacturing	0.568	0.425	0.058	0.007
BS33520	Household appliance manufacturing	0.697	0.586	0.088	0.009
BS33610	Motor vehicle manufacturing	0.568	0.399	0.051	0.006
BS33620	Motor vehicle body and trailer manufacturing	0.594	0.532	0.085	0.009
BS33630	Other motor vehicle parts manufacturing	0.571	0.483	0.078	0.008
BS33640	Aerospace product and parts manufacturing	0.454	0.309	0.044	0.005
BS33650	Railroad rolling stock manufacturing	1.048	1.450	0.227	0.020
BS33660	Ship and boat building	0.527	0.553	0.083	0.010
BS33690	Other transportation equipment manufacturing	0.614	0.424	0.083	0.008
BS33700	Furniture and related product manufacturing	0.636	0.557	0.110	0.010
BS33900	Miscelleneous manufacturing	0.743	0.544	0.105	0.010
BS41000	Wholesale trade	0.925	0.555	0.085	0.010
BS4A000	Retail trade	0.955	0.659	0.177	0.013
BS48100	Air transportation	0.692	0.434	0.068	0.007
BS48200	Rail transportation	0.939	0.551	0.071	0.009
BS48300	Water transportation	0.863	0.668	0.211	0.013
BS48400	Truck transportation	0.797	0.526	0.097	0.010
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	0.973	0.688	0.129	0.012
BS48600	Pipeline transportation	0.960	0.177	0.017	0.003
BS49A00	Postal service and couriers and messengers	0.918	0.681	0.145	0.012
BS49300	Warehousing and storage	0.939	0.736	0.147	0.013
BS51200	Motion picture and sound recording industries	0.766	0.414	0.104	0.008
BS51510	Radio and television broadcasting	0.733	0.492	0.077	0.009

Table 9

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	0.885	0.330	0.047	0.005
BS52B00	Depository credit intermediation and monetary authorities	0.997	0.540	0.045	0.008
BS52410	Insurance carriers	0.912	0.536	0.075	0.009
BS53110	Lessors of real estate	0.929	0.345	0.051	0.006
BS5311A	Owner-occupied dwellings	1.123	0.456	0.023	0.009
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	0.872	0.440	0.074	0.008
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	0.912	0.654	0.091	0.012
BS541C0	Legal, accounting and architectural, engineering and related services	0.951	0.733	0.100	0.013
BS541D0	Computer systems design and other professional, scientific and technical services	0.942	0.692	0.110	0.013
BS54180	Advertising, public relations and related services	0.916	0.682	0.135	0.013
BS56100	Administrative and support services	0.924	0.674	0.144	0.013
BS56200	Waste management and remediation services	0.955	0.390	0.068	0.007
BS61000	Educational services	1.000	0.713	0.219	0.014
BS62000	Health care services and social assistance	0.985	0.700	0.125	0.013
BS71000	Arts, entertainment and recreation	0.885	0.625	0.210	0.012
BS72000	Accommodation and food services	0.819	0.559	0.166	0.011
BS81100	Repair and maintenance	0.904	0.638	0.121	0.012
BS81A00	Personal services and private households	0.955	0.635	0.229	0.013
BS81300	Professional and similar organisations	0.956	0.736	0.157	0.014
NP61000	Non-profit education services	1.011	0.869	0.177	0.016
NP62400	Non-profit social assistance	0.950	0.801	0.203	0.015
NP71000	Non-profit arts, entertainment and recreation	0.813	0.586	0.168	0.011
NP81310	Religious organizations	0.889	0.694	0.176	0.013
NPA0000	Miscellaneous non-profit institutions serving households	0.877	0.686	0.163	0.013
GS611B0	Educational services	1.051	0.890	0.143	0.014
GS61130	Universities	0.974	0.594	0.086	0.010
GS62200	Hospitals	0.904	0.731	0.133	0.013
GS62300	Nursing and residential care facilities	1.066	0.937	0.132	0.016
GS91100	Other federal government services (including defence)	0.952	0.743	0.097	0.012
GS91200	Other provincial and territorial government services	0.922	0.671	0.093	0.011
GS91300	Other municipal government services	0.945	0.593	0.089	0.009
GS91400	Other aboriginal government services	0.942	0.667	0.144	0.012

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change
Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change
Please note that all employment impacts are measured in person-years.

Table 10: Alberta Industry Multipliers

Closed Model with Safety Net - Direct, Indirect and Induced Impacts

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS11A00	Crop and animal production	2.719	8.250	2.109	2.037
BS11300	Forestry and logging	2.170	2.143	2.173	1.955
BS11400	Fishing, hunting and trapping	1.457	1.427	1.288	1.478
BS11500	Support activities for agriculture and forestry	1.686	1.425	1.378	1.647
BS21100	Oil and gas extraction	1.367	2.104	3.953	1.428
BS21210	Coal mining	1.257	1.461	1.861	1.343
BS21220	Metal ore mining	1.299	1.402	1.063	1.394
BS21230	Non-metal mineral mining and quarrying	1.323	1.486	1.692	1.357
BS21300	Support activities for mining and oil and gas extraction	1.767	1.474	1.749	1.621
BS22110	Electric power generation, transmission and distribution	1.317	1.414	1.979	1.365
BS221A0	Natural gas distribution, water, sewage and other systems	1.351	1.437	1.552	1.435
BS23A00	Residential building construction	1.628	1.498	1.598	1.561
BS23B00	Non-residential building construction	1.698	1.611	1.672	1.580
BS23C10	Transportation engineering construction	1.772	1.586	1.628	1.683
BS23C20	Oil and gas engineering construction	2.067	2.011	1.969	1.813
BS23C30	Electric power engineering construction	1.330	1.471	1.522	1.409
BS23C40	Communication engineering construction	1.974	1.933	2.000	1.550
BS23C50	Other engineering construction	1.591	1.486	1.623	1.576
BS23D00	Repair construction	1.574	1.452	1.550	1.545
BS23E00	Other activities of the construction industry	1.318	1.366	1.565	1.393
BS31110	Animal food manufacturing	2.140	2.032	2.087	1.527
BS31130	Sugar and confectionery product manufacturing	X	X	X	1.415
BS31140	Fruit and vegetable preserving and specialty food manufacturing	X	X	X	1.578
BS31150	Dairy product manufacturing	X	X	X	2.144
BS31160	Meat product manufacturing	3.712	2.488	3.257	2.378
BS31170	Seafood product preparation and packaging	1.536	1.404	1.206	1.394
BS311A0	Miscellaneous food manufacturing	2.261	2.238	2.191	1.768
BS31211	Soft drink and ice manufacturing	X	X	X	1.462
BS31212	Breweries	X	X	X	1.261
BS3121A	Wineries and distilleries	1.215	1.604	1.712	1.227
BS31220	Tobacco manufacturing	0.000	0.000	0.000	0.000
BS31A00	Textile and textile product mills	1.503	1.379	1.205	1.424
BS31B00	Clothing and leather and allied product manufacturing	1.516	1.384	1.245	1.479
BS32100	Wood product manufacturing	1.799	1.620	1.691	1.635
BS32210	Pulp, paper and paperboard mills	2.363	2.194	3.069	1.631
BS32220	Converted paper product manufacturing	1.591	1.387	1.412	1.381
BS32300	Printing and related support activities	1.439	1.324	1.299	1.422

Table 10

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS32400	Petroleum and coal products manufacturing	4.843	7.252	9.789	2.061
BS32510	Basic chemical manufacturing	3.383	5.095	6.178	1.937
BS32520	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3.266	4.642	5.778	2.034
BS32530	Pesticides, fertilizer and other agricultural chemical manufacturing	X	X	X	1.578
BS32540	Pharmaceutical and medicine manufacturing	1.745	1.433	1.350	1.522
BS325A0	Miscellaneous chemical product manufacturing	X	X	X	1.510
BS32610	Plastic product manufacturing	1.583	1.431	1.398	1.411
BS32620	Rubber product manufacturing	1.571	1.333	1.355	1.303
BS327A0	Non-metallic mineral product manufacturing (except cement and concrete products)	1.489	1.503	1.458	1.409
BS32730	Cement and concrete product manufacturing	1.913	1.973	2.112	1.707
BS33100	Primary metal manufacturing	X	X	X	1.297
BS33200	Fabricated metal product manufacturing	1.655	1.433	1.486	1.460
BS33300	Machinery manufacturing	1.619	1.456	1.541	1.424
BS33410	Computer and peripheral equipment manufacturing	X	X	X	1.321
BS334B0	Electronic product manufacturing	X	X	X	1.336
BS335A0	Electrical equipment and component manufacturing	X	X	X	1.327
BS33520	Household appliance manufacturing	X	X	X	1.510
BS33610	Motor vehicle manufacturing	X	X	X	1.387
BS33620	Motor vehicle body and trailer manufacturing	1.505	1.294	1.284	1.356
BS33630	Other motor vehicle parts manufacturing	1.652	1.422	1.410	1.401
BS33640	Aerospace product and parts manufacturing	1.473	1.412	1.491	1.250
BS33650	Railroad rolling stock manufacturing	X	X	X	1.297
BS33660	Ship and boat building	2.276	1.548	1.518	1.492
BS33690	Other transportation equipment manufacturing	X	X	X	1.270
BS33700	Furniture and related product manufacturing	1.908	1.513	1.436	1.566
BS33900	Miscelleneous manufacturing	1.512	1.390	1.335	1.455
BS41000	Wholesale trade	1.392	1.376	1.427	1.441
BS4A000	Retail trade	1.462	1.357	1.194	1.507
BS48100	Air transportation	X	X	X	1.764
BS48200	Rail transportation	X	X	X	1.502
BS48300	Water transportation	X	X	X	1.590
BS48400	Truck transportation	1.931	1.728	1.643	1.795
BS48B00	Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	1.548	1.421	1.376	1.617
BS48600	Pipeline transportation	1.149	1.712	2.541	1.207
BS49A00	Postal service and couriers and messengers	1.564	1.405	1.318	1.612
BS49300	Warehousing and storage	1.314	1.223	1.186	1.382
BS51200	Motion picture and sound recording industries	1.715	1.841	1.507	1.549
BS51510	Radio and television broadcasting	1.538	1.466	1.611	1.438

Table 10

"Link 1961" Industry Code	Industry Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
BS51B00	Publishing, pay/specialty services, telecommunications and other information services	1.266	1.455	1.624	1.309
BS52B00	Depository credit intermediation and monetary authorities	1.333	1.390	2.270	1.420
BS52410	Insurance carriers	2.351	3.236	4.170	1.844
BS53110	Lessors of real estate	1.486	2.217	2.564	1.516
BS5311A	Owner-occupied dwellings	1.273	1.443	0.000	1.405
BS53B00	Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	1.439	1.558	1.573	1.471
BS5A000	Other finance, insurance and real estate services and management of companies and enterprises	1.880	1.677	1.838	1.732
BS541C0	Legal, accounting and architectural, engineering and related services	1.532	1.381	1.541	1.560
BS541D0	Computer systems design and other professional, scientific and technical services	1.532	1.428	1.469	1.542
BS54180	Advertising, public relations and related services	1.598	1.438	1.389	1.573
BS56100	Administrative and support services	1.478	1.363	1.282	1.504
BS56200	Waste management and remediation services	1.218	1.356	1.338	1.304
BS61000	Educational services	1.538	1.374	1.179	1.579
BS62000	Health care services and social assistance	1.341	1.259	1.265	1.416
BS71000	Arts, entertainment and recreation	1.661	1.542	1.263	1.595
BS72000	Accommodation and food services	1.570	1.454	1.252	1.551
BS81100	Repair and maintenance	1.452	1.340	1.307	1.487
BS81A00	Personal services and private households	1.384	1.328	1.142	1.446
BS81300	Professional and similar organisations	1.832	1.577	1.485	1.740
NP61000	Non-profit education services	1.234	1.139	1.114	1.313
NP62400	Non-profit social assistance	1.443	1.270	1.178	1.492
NP71000	Non-profit arts, entertainment and recreation	2.012	1.653	1.331	1.679
NP81310	Religious organizations	1.637	1.405	1.245	1.576
NPA0000	Miscellaneous non-profit institutions serving households	1.762	1.493	1.334	1.633
GS611B0	Educational services	1.290	1.197	1.222	1.393
GS61130	Universities	1.279	1.276	1.386	1.369
GS62200	Hospitals	1.353	1.258	1.274	1.392
GS62300	Nursing and residential care facilities	1.242	1.153	1.219	1.345
GS91100	Other federal government services (including defence)	1.434	1.329	1.484	1.497
GS91200	Other provincial and territorial government services	2.464	2.356	3.370	1.833
GS91300	Other municipal government services	1.331	1.319	1.405	1.393
GS91400	Other aboriginal government services	1.738	1.610	1.425	1.639

Notes: Multipliers for GDP expressed as total impact per direct change in GDP.
Multipliers for Labour Income expressed as total impact per direct change in Labour Income.
Multipliers for Gross Output expressed as total impact per direct change in Gross Output.
Multipliers for Employment expressed as total jobs required per direct job required.
Please note that all employment impacts are measured in person-years.

The direct change in GDP at basic prices, labour income or number of direct jobs required must be known before using these multipliers.

Table 11: Alberta Commodity Intensity Ratios in Basic Prices

Closed Model with Safety Net - Direct, Indirect and Induced Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.756	0.213	0.055	1.740
M112A	Live animals	0.643	0.259	0.113	2.367
M11D0	Other farm products	0.722	0.241	0.080	1.936
M11E0	Forestry products and services	0.793	0.478	0.075	1.935
M1140	Fish and seafood, live, fresh, chilled or frozen	0.686	0.321	0.117	2.219
M1150	Support services related to farming and forestry	0.739	0.389	0.103	2.038
M21B0	Mineral fuels	0.891	0.305	0.030	1.430
M2122	Metal ores and concentrates	0.963	0.485	0.446	1.394
M2123	Non-metallic minerals	0.799	0.331	0.042	1.374
M2130	Mineral support services	0.782	0.654	0.076	1.619
M21A0	Mineral and oil and gas exploration	0.858	0.359	0.039	1.514
M2200	Utilities	0.925	0.447	0.050	1.400
M23A0	Residential construction	0.782	0.578	0.086	1.561
M23B0	Non-residential buildings	0.763	0.536	0.077	1.580
M23C0	Engineering construction	0.808	0.593	0.079	1.729
M23D0	Repair construction services	0.796	0.589	0.091	1.545
M31C0	Food and non-alcoholic beverages	0.591	0.296	0.076	2.059
M312A	Alcoholic beverages and tobacco products	0.807	0.226	0.032	1.250
M31D0	Textile products, clothing, and products of leather and similar materials	0.788	0.577	0.167	1.475
M3210	Wood products	0.720	0.506	0.077	1.637
M3220	Wood pulp, paper and paper products and paper stock	0.559	0.366	0.047	1.591
M3230	Printed products and services	0.746	0.543	0.093	1.422
M3240	Refined petroleum products (except petrochemicals)	0.822	0.263	0.028	2.059
M3250	Chemical products	0.665	0.273	0.034	1.862
M3260	Plastic and rubber products	0.563	0.388	0.064	1.417
M3270	Non-metallic mineral products	0.769	0.404	0.058	1.628
M3310	Primary metallic products	0.346	0.250	0.032	1.327
M3320	Fabricated metallic products	0.612	0.496	0.071	1.457
M3330	Industrial machinery	0.619	0.478	0.066	1.428
M334C	Computer and electronic products	0.710	0.491	0.072	1.340
M3350	Electrical equipment, appliances and components	0.589	0.438	0.061	1.338
M336A	Transportation equipment	0.533	0.424	0.066	1.308
M3363	Motor vehicle parts	0.584	0.483	0.077	1.395
M3370	Furniture and related products	0.640	0.555	0.109	1.562
M3B00	Other manufactured products and custom work	0.654	0.449	0.061	1.475
M4100	Wholesale margins and commissions	0.913	0.538	0.084	1.444

Table 11

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M4A00	Retail margins, sales of used goods and commissions	0.949	0.651	0.174	1.509
M4B00	Transportation and related services	0.860	0.489	0.085	1.612
M51D0	Information and cultural services	0.817	0.482	0.079	1.466
M51E0	Published and recorded media products	0.825	0.484	0.081	1.452
M5170	Telecommunications	0.894	0.266	0.037	1.260
M52C0	Depository credit intermediation	0.977	0.544	0.050	1.479
M5F00	Other finance, insurance and rights to non-financial intangible assets	0.929	0.636	0.083	1.724
M53D0	Real estate, rental and leasing	0.912	0.438	0.068	1.524
M541E	Professional services excluding software and research and development	0.943	0.708	0.104	1.550
M5E00	Software	0.913	0.594	0.085	1.489
M5417	Research and development	0.937	0.554	0.075	1.527
M5G00	Administrative and support, head office, waste management and remediation services	0.905	0.599	0.120	1.501
M6100	Education services	1.003	0.731	0.143	1.457
M6200	Health and social assistance services	0.979	0.711	0.127	1.427
M7100	Amusement, recreation and gambling services	0.883	0.618	0.178	1.572
M7200	Accommodation and food services	0.825	0.563	0.167	1.551
M8100	Other services	0.921	0.642	0.140	1.481
M9A00	Sales of other services by Non-Profit Institutions Serving Households	0.884	0.683	0.166	1.623
M9B00	Sales of other government services	0.975	0.743	0.096	1.520
N0000	Services provided by Non-Profit Institutions Serving Households	0.898	0.717	0.174	1.572
G6100	Education services provided by government sector	1.037	0.833	0.133	1.383
C6200	Health services provided by government sector	0.930	0.764	0.133	1.385
G9110	Other federal government services	0.944	0.734	0.097	1.505
G9120	Other provincial and territorial government services	0.922	0.671	0.093	1.833
G9130	Other municipal government services	0.945	0.593	0.089	1.393
G9140	Other aboriginal government services	0.942	0.667	0.144	1.639

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 12: Alberta Commodity Intensity Ratios in Purchaser Prices

Closed Model with Safety Net - Direct, Indirect and Induced Impacts

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M111B	Grains and other crop products	0.715	0.202	0.052	1.645
M112A	Live animals	0.619	0.249	0.109	2.280
M11D0	Other farm products	0.699	0.233	0.077	1.872
M11E0	Forestry products and services	0.783	0.471	0.074	1.910
M1140	Fish and seafood, live, fresh, chilled or frozen	0.478	0.224	0.081	1.546
M1150	Support services related to farming and forestry	0.739	0.389	0.103	2.038
M21B0	Mineral fuels	0.800	0.274	0.027	1.285
M2122	Metal ores and concentrates	0.963	0.485	0.446	1.394
M2123	Non-metallic minerals	0.513	0.213	0.027	0.883
M2130	Mineral support services	0.782	0.654	0.076	1.619
M21A0	Mineral and oil and gas exploration	0.858	0.359	0.039	1.514
M2200	Utilities	0.899	0.435	0.048	1.361
M23A0	Residential construction	0.742	0.548	0.082	1.480
M23B0	Non-residential buildings	0.758	0.532	0.076	1.569
M23C0	Engineering construction	0.807	0.593	0.079	1.729
M23D0	Repair construction services	0.760	0.563	0.086	1.476
M31C0	Food and non-alcoholic beverages	0.436	0.218	0.056	1.517
M312A	Alcoholic beverages and tobacco products	0.485	0.136	0.019	0.752
M31D0	Textile products, clothing, and products of leather and similar materials	0.521	0.381	0.110	0.974
M3210	Wood products	0.535	0.376	0.057	1.217
M3220	Wood pulp, paper and paper products and paper stock	0.516	0.338	0.043	1.469
M3230	Printed products and services	0.528	0.384	0.066	1.007
M3240	Refined petroleum products (except petrochemicals)	0.619	0.198	0.021	1.552
M3250	Chemical products	0.574	0.235	0.030	1.606
M3260	Plastic and rubber products	0.383	0.264	0.043	0.963
M3270	Non-metallic mineral products	0.639	0.335	0.048	1.352
M3310	Primary metallic products	0.343	0.248	0.032	1.316
M3320	Fabricated metallic products	0.547	0.443	0.064	1.302
M3330	Industrial machinery	0.502	0.387	0.054	1.157
M334C	Computer and electronic products	0.599	0.414	0.061	1.131
M3350	Electrical equipment, appliances and components	0.489	0.363	0.051	1.109
M336A	Transportation equipment	0.477	0.380	0.059	1.171
M3363	Motor vehicle parts	0.378	0.312	0.050	0.902
M3370	Furniture and related products	0.513	0.445	0.087	1.252
M3B00	Other manufactured products and custom work	0.542	0.372	0.067	1.222

Table 12

"Summary" Commodity Code	Commodity Title	GDP at Basic Prices	Labour Income	Employment	Gross Output
M4100	Wholesale margins and commissions	0.913	0.538	0.084	1.444
M4A00	Retail margins, sales of used goods and commissions	0.949	0.651	0.174	1.509
M4B00	Transportation and related services	0.845	0.481	0.084	1.584
M51D0	Information and cultural services	0.809	0.477	0.078	1.450
M51E0	Published and recorded media products	0.646	0.379	0.063	1.136
M5170	Telecommunications	0.854	0.254	0.036	1.203
M52C0	Depository credit intermediation	0.976	0.543	0.050	1.477
M5F00	Other finance, insurance and rights to non-financial intangible assets	0.929	0.636	0.083	1.724
M53D0	Real estate, rental and leasing	0.901	0.433	0.068	1.506
M541E	Professional services excluding software and research and development	0.915	0.687	0.101	1.503
M5E00	Software	0.902	0.588	0.084	1.472
M5417	Research and development	0.937	0.554	0.075	1.527
M5G00	Administrative and support, head office, waste management and remediation services	0.890	0.590	0.118	1.477
M6100	Education services	0.993	0.724	0.142	1.443
M6200	Health and social assistance services	0.979	0.711	0.127	1.427
M7100	Amusement, recreation and gambling services	0.703	0.492	0.142	1.252
M7200	Accommodation and food services	0.785	0.536	0.159	1.476
M8100	Other services	0.882	0.615	0.134	1.418
M9A00	Sales of other services by Non-Profit Institutions Serving Households	0.884	0.683	0.166	1.623
M9B00	Sales of other government services	0.975	0.743	0.096	1.520
N0000	Services provided by Non-Profit Institutions Serving Households	0.898	0.717	0.174	1.572
G6100	Education services provided by government sector	1.037	0.833	0.133	1.383
G6200	Health services provided by government sector	0.930	0.764	0.133	1.385
G9110	Other federal government services	0.944	0.734	0.097	1.505
G9120	Other provincial and territorial government services	0.922	0.671	0.093	1.833
G9130	Other municipal government services	0.945	0.593	0.089	1.393
G9140	Other aboriginal government services	0.942	0.667	0.144	1.639

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Table 13: Alberta Commodity Supply Ratios

Percent

"Summary" Commodity Code	Commodity Title	Alberta	Rest of Canada	Rest of World	Total Supply
M111B	Grains and other crop products	59.5	17.8	22.8	100
M112A	Live animals	74.3	25.0	0.7	100
M11D0	Other farm products	86.2	13.1	0.6	100
M11E0	Forestry products and services	70.8	25.4	3.7	100
M1140	Fish and seafood, live, fresh, chilled or frozen	7.6	74.0	18.4	100
M1150	Support services related to farming and forestry	86.5	13.5	0.0	100
M21B0	Mineral fuels	77.9	9.3	12.8	100
M2122	Metal ores and concentrates	0.0	0.0	100.0	100
M2123	Non-metallic minerals	50.6	38.5	10.9	100
M2130	Mineral support services	98.9	1.1	0.0	100
M21A0	Mineral and oil and gas exploration	100.0	0.0	0.0	100
M2200	Utilities	97.3	1.8	0.9	100
M23A0	Residential construction	100.0	0.0	0.0	100
M23B0	Non-residential buildings	100.0	0.0	0.0	100
M23C0	Engineering construction	100.0	0.0	0.0	100
M23D0	Repair construction services	100.0	0.0	0.0	100
M31C0	Food and non-alcoholic beverages	29.0	49.1	21.9	100
M312A	Alcoholic beverages and tobacco products	14.7	42.3	43.0	100
M31D0	Textile products, clothing, and products of leather and similar materials	3.9	6.1	90.0	100
M3210	Wood products	51.5	35.1	13.4	100
M3220	Wood pulp, paper and paper products and paper stock	19.1	40.2	40.7	100
M3230	Printed products and services	58.4	24.6	17.0	100
M3240	Refined petroleum products (except petrochemicals)	70.3	15.9	13.8	100
M3250	Chemical products	39.8	18.5	41.8	100
M3260	Plastic and rubber products	23.5	30.9	45.6	100
M3270	Non-metallic mineral products	63.1	10.3	26.6	100
M3310	Primary metallic products	17.7	27.9	54.4	100
M3320	Fabricated metallic products	49.9	17.9	32.2	100
M3330	Industrial machinery	23.5	9.5	66.9	100
M334C	Computer and electronic products	2.1	6.2	91.7	100
M3350	Electrical equipment, appliances and components	5.7	17.1	77.2	100
M336A	Transportation equipment	2.5	20.6	76.8	100
M3363	Motor vehicle parts	8.4	14.3	77.3	100
M3370	Furniture and related products	23.9	38.3	37.8	100
M3B00	Other manufactured products and custom work	28.9	13.1	58.0	100
M4100	Wholesale margins and commissions	76.1	23.3	0.6	100

Table 13

"Summary" Commodity Code	Commodity Title	Alberta	Rest of Canada	Rest of World	Total Supply
M4A00	Retail margins, sales of used goods and commissions	95.4	3.6	1.0	100
M4B00	Transportation and related services	75.5	22.3	2.2	100
M51D0	Information and cultural services	54.9	30.2	14.9	100
M51E0	Published and recorded media products	23.2	23.8	52.9	100
M5170	Telecommunications	83.4	13.0	3.6	100
M52C0	Depository credit intermediation	74.2	23.9	2.0	100
M5F00	Other finance, insurance and rights to non-financial intangible assets	60.3	31.8	7.9	100
M53D0	Real estate, rental and leasing	95.6	3.3	1.1	100
M541E	Professional services excluding software and research and development	81.8	12.7	5.5	100
M5E00	Software	66.4	20.6	13.0	100
M5417	Research and development	97.2	1.3	1.5	100
M5G00	Administrative and support, head office, waste management and remediation services	66.1	25.0	8.9	100
M6100	Education services	94.4	1.0	4.6	100
M6200	Health and social assistance services	96.5	2.0	1.5	100
M7100	Amusement, recreation and gambling services	74.2	24.7	1.2	100
M7200	Accommodation and food services	92.7	6.7	0.7	100
M8100	Other services	94.1	5.3	0.6	100
M9A00	Sales of other services by Non-Profit Institutions Serving Households	100.0	0.0	0.0	100
M9B00	Sales of other government services	99.7	0.0	0.3	100
N0000	Services provided by Non-Profit Institutions Serving Households	100.0	0.0	0.0	100
G6100	Education services provided by government sector	100.0	0.0	0.0	100
G6200	Health services provided by government sector	100.0	0.0	0.0	100
G9110	Other federal government services	100.0	0.0	0.0	100
G9120	Other provincial and territorial government services	100.0	0.0	0.0	100
G9130	Other municipal government services	100.0	0.0	0.0	100
G9140	Other aboriginal government services	100.0	0.0	0.0	100

Notes: Intensity ratios for GDP, Labour Income and Gross Output expressed as total impact per dollar of output change. Intensity ratios for employment expressed as total number of jobs required per $10,000 of output change. Please note that all employment impacts are measured in person-years.

Appendix 1:

Industry Concordance: "Link 1961" <–> "Detailed"

"Link 1961" Industry Title	"Link 1961" Industry Codes	"Detailed" Industry Codes
Crop and animal production	BS11A00	BS111A00, BS111400, BS112000
Forestry and logging	BS11300	BS113000
Fishing, hunting and trapping	BS11400	BS114000
Support activities for agriculture and forestry	BS11500	BS115A00, BS115300
Oil and gas extraction	BS21100	BS211113, BS211114
Coal mining	BS21210	BS212100
Metal ore mining	BS21220	BS212210, BS212220, BS212230, BS212290
Non-metal mineral mining and quarrying	BS21230	BS212310, BS212320, BS212392, BS21239A, BS212396
Support activities for mining and oil and gas extraction	BS21300	BS21311A, BS21311B
Electric power generation, transmission and distribution	BS22110	BS221100
Natural gas distribution, water, sewage and other systems	BS221A0	BS221200, BS221300
Residential building construction	BS23A00	BS23A000
Non-residential building construction	BS23B00	BS23B000
Transportation engineering construction	BS23C10	BS23C100
Oil and gas engineering construction	BS23C20	BS23C200
Electric power engineering construction	BS23C30	BS23C300
Communication engineering construction	BS23C40	BS23C400
Other engineering construction	BS23C50	BS23C500
Repair construction	BS23D00	BS23D000
Other activities of the construction industry	BS23E00	BS23E000
Animal food manufacturing	BS31110	BS311100
Sugar and confectionery product manufacturing	BS31130	BS311300
Fruit and vegetable preserving and specialty food manufacturing	BS31140	BS311400
Dairy product manufacturing	BS31150	BS311500
Meat product manufacturing	BS31160	BS311600
Seafood product preparation and packaging	BS31170	BS311700
Miscellaneous food manufacturing	BS311A0	BS311200, BS311800, BS311900
Soft drink and ice manufacturing	BS31211	BS312110
Breweries	BS31212	BS312120
Wineries and distilleries	BS3121A	BS3121A0
Tobacco manufacturing	BS31220	BS312200
Textile and textile product mills	BS31A00	BS31A000
Clothing and leather and allied product manufacturing	BS31B00	BS31B000

Appendix 1:

"Link 1961" Industry Title	"Link 1961" Industry Codes	"Detailed" Industry Codes
Wood product manufacturing	BS32100	BS321100, BS321200, BS321900
Pulp, paper and paperboard mills	BS32210	BS322100
Converted paper product manufacturing	BS32220	BS322200
Printing and related support activities	BS32300	BS323000
Petroleum and coal products manufacturing	BS32400	BS324110, BS3241A0
Basic chemical manufacturing	BS32510	BS325100
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	BS32520	BS325200
Pesticides, fertilizer and other agricultural chemical manufacturing	BS32530	BS325300
Pharmaceutical and medicine manufacturing	BS32540	BS325400
Miscellaneous chemical product manufacturing	BS325A0	BS325500, BS325600, BS325900
Plastic product manufacturing	BS32610	BS326100
Rubber product manufacturing	BS32620	BS326200
Non-metallic mineral product manufacturing (except cement and concrete products)	BS327A0	BS327A00
Cement and concrete product manufacturing	BS32730	BS327300
Primary metal manufacturing	BS33100	BS331100, BS331200, BS331300, BS331400, BS331500
Fabricated metal product manufacturing	BS33200	BS332A00, BS332300, BS332400, BS332500, BS332600, BS332700, BS332800
Machinery manufacturing	BS33300	BS333100, BS333200, BS333300, BS333400, BS333500, BS333600, BS333900
Computer and peripheral equipment manufacturing	BS33410	BS334100
Electronic product manufacturing	BS334B0	BS334200, BS334A00, BS334400
Electrical equipment and component manufacturing	BS335A0	BS335100, BS335300, BS335900
Household appliance manufacturing	BS33520	BS335200
Motor vehicle manufacturing	BS33610	BS336110, BS336120
Motor vehicle body and trailer manufacturing	BS33620	BS336200
Other motor vehicle parts manufacturing	BS33630	BS336310, BS336320, BS336330, BS336340, BS336350, BS336360, BS336370, BS336390
Aerospace product and parts manufacturing	BS33640	BS336400
Railroad rolling stock manufacturing	BS33650	BS336500
Ship and boat building	BS33660	BS336600
Other transportation equipment manufacturing	BS33690	BS336900
Furniture and related product manufacturing	BS33700	BS337100, BS337200, BS337900
Miscelleneous manufacturing	BS33900	BS339100, BS339900
Wholesale trade	BS41000	BS411000, BS412000, BS413000, BS414000, BS415000, BS416000, BS417000, BS418000, BS419000

Appendix 1:

"Link 1961" Industry Title	"Link 1961" Industry Codes	"Detailed" Industry Codes
Retail trade	BS4A000	BS441000, BS442000, BS443000, BS444000, BS445000, BS446000, BS447000, BS448000, BS451000, BS452000, BS453000, BS454000
Air transportation	BS48100	BS481000
Rail transportation	BS48200	BS482000
Water transportation	BS48300	BS483000
Truck transportation	BS48400	BS484000
Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation	BS48B00	BS485100, BS48A000, BS485300, BS488000
Pipeline transportation	BS48600	BS486A00, BS486200
Postal service and couriers and messengers	BS49A00	BS49A000
Warehousing and storage	BS49300	BS493000
Motion picture and sound recording industries	BS51200	BS5121A0, BS512130, BS512200
Radio and television broadcasting	BS51510	BS515100
Publishing, pay/specialty services, telecommunications and other information services	BS51B00	BS511110, BS5111A0, BS511200, BS515200, BS517000, BS518000, BS519000
Depository credit intermediation and monetary authorities	BS52B00	BS521000, BS5221A0, BS522130
Insurance carriers	BS52410	BS524100
Lessors of real estate	BS53110	BS531100
Owner-occupied dwellings	BS5311A	BS5311A0
Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works)	BS53B00	BS532100, BS532A00, BS533000
Other finance, insurance and real estate services and management of companies and enterprises	BS5A000	BS522200, BS522300, BS52A000, BS524200, BS531A00, BS551113
Legal, accounting and architectural, engineering and related services	BS541C0	BS541100, BS541200, BS541300
Computer systems design and other professional, scientific and technical services	BS541D0	BS541400, BS541500, BS541600, BS541700, BS541900
Advertising, public relations and related services	BS54180	BS541800
Administrative and support services	BS56100	BS561100, BS561A00, BS561300, BS561400, BS561500, BS561600, BS561700
Waste management and remediation services	BS56200	BS562000
Educational services	BS61000	BS610000
Health care services and social assistance	BS62000	BS621100, BS621200, BS621A00, BS623000, BS624000
Arts, entertainment and recreation	BS71000	BS71A000, BS713A00, BS713200
Accommodation and food services	BS72000	BS721100, BS721A00, BS722000
Repair and maintenance	BS81100	BS811100, BS811A00
Personal services and private households	BS81A00	BS812A00, BS812200, BS812300, BS814000
Professional and similar organisations	BS81300	BS813000

Appendix 1:

"Link 1961" Industry Title	"Link 1961" Industry Codes	"Detailed" Industry Codes
Repair and maintenance	FC11000	FC110000
Operating supplies	FC12000	FC120000
Office supplies	FC13000	FC130000
Advertising, promotion, meals, entertainment, travel, meeting and convention expenses	FC20000	FC210000, FC220000
Transportation margins	FC30000	FC300000
Non-profit education services	NP61000	NP610000
Non-profit social assistance	NP62400	NP624000
Non-profit arts, entertainment and recreation	NP71000	NP710000
Religious organizations	NP81310	NP813100
Miscellaneous non-profit institutions serving households	NPA0000	NP621000, NP813A00, NP999999
Educational services	GS611B0	GS611100, GS611200, GS611A00
Universities	GS61130	GS611300
Hospitals	GS62200	GS622000
Nursing and residential care facilities	GS62300	GS623000
Other federal government services (including defence)	GS91100	GS911100, GS911A00
Other provincial and territorial government services	GS91200	GS912000
Other municipal government services	GS91300	GS913000
Other aboriginal government services	GS91400	GS914000

Appendix 2:

Industry Codes: "Detailed" <-> North American Industry Classification System (NAICS)

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS111A00	Crop production (except greenhouse, nursery and floriculture production)	111 excl. 1114	111A00
BS111400	Greenhouse, nursery and floriculture production	1114	111400
BS112000	Animal production	112	112500, 112A00
BS113000	Forestry and logging	113	113
BS114000	Fishing, hunting and trapping	114	114
BS115A00	Support activities for crop and animal production	1151, 1152	115100, 115200
BS115300	Support activities for forestry	1153	115300
BS211113	Conventional oil and gas extraction	211113	NA
BS211114	Non-conventional oil extraction	211114	NA
BS212100	Coal mining	2121	212100
BS212210	Iron ore mining	21221	212210
BS212220	Gold and silver ore mining	21222	212220
BS212230	Copper, nickel, lead and zinc ore mining	21223	212230
BS212290	Other metal ore mining	21229	212290
BS212310	Stone mining and quarrying	21231	212310
BS212320	Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying	21232	212320
BS212392	Diamond mining	212392	212392
BS21239A	Other non-metallic mineral mining and quarrying (except diamond and potash)	212394, 212395, 212397, 212398	21239A
BS212396	Potash mining	212396	212396
BS21311A	Support activities for oil and gas extraction	213111, 213118	NA
BS21311B	Support activities for mining	213117, 213119	NA
BS221100	Electric power generation, transmission and distribution	2211	NA
BS221200	Natural gas distribution	2212	2212
BS221300	Water, sewage and other systems	2213	2213
BS23A000	Residential building construction	ND	2300A0
BS23B000	Non-residential building construction	ND	2300B0
BS23C100	Transportation engineering construction	ND	2300C0
BS23C200	Oil and gas engineering construction	ND	2300D0
BS23C300	Electric power engineering construction	ND	2300E0
BS23C400	Communication engineering construction	ND	2300F0
BS23C500	Other engineering construction	ND	2300G0
BS23D000	Repair construction	ND	2300H0
BS23E000	Other activities of the construction industry	ND	2300I0
BS311100	Animal food manufacturing	3111	3111
BS311200	Grain and oilseed milling	3112	3112
BS311300	Sugar and confectionery product manufacturing	3113	3113

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS311400	Fruit and vegetable preserving and specialty food manufacturing	3114	3114
BS311500	Dairy product manufacturing	3115	3115
BS311600	Meat product manufacturing	3116	3116
BS311700	Seafood product preparation and packaging	3117	3117
BS311800	Bakeries and tortilla manufacturing	3118	3118
BS311900	Other food manufacturing	3119	3119
BS312110	Soft drink and ice manufacturing	31211	312110
BS312120	Breweries	31212	312120
BS3121A0	Wineries and distilleries	31213, 31214	312130, 312140
BS312200	Tobacco manufacturing	3122	3122
BS31A000	Textile and textile product mills	313, 314	31A
BS31B000	Clothing and leather and allied product manufacturing	315, 316	315110, 315190, 315210, 315220, 315230, 315290, 3159, 3161, 3162, 3169
BS321100	Sawmills and wood preservation	3211	3211
BS321200	Veneer, plywood and engineered wood product manufacturing	3212	3212
BS321900	Other wood product manufacturing	3219	3219
BS322100	Pulp, paper and paperboard mills	3221	3221
BS322200	Converted paper product manufacturing	3222	3222
BS323000	Printing and related support activities	323	323
BS324110	Petroleum refineries	32411	324110
BS3241A0	Petroleum and coal products manufacturing (except petroleum refineries)	324 excl. 32411	324120, 324190
BS325100	Basic chemical manufacturing	3251	3251
BS325200	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	3252
BS325300	Pesticides, fertilizer and other agricultural chemical manufacturing	3253	3253
BS325400	Pharmaceutical and medicine manufacturing	3254	3254
BS325500	Paint, coating and adhesive manufacturing	3255	3255
BS325600	Soap, cleaning compound and toilet preparation manufacturing	3256	3256
BS325900	Other chemical product manufacturing	3259	3259
BS326100	Plastic product manufacturing	3261	3261
BS326200	Rubber product manufacturing	3262	3262
BS327A00	Non-metallic mineral product manufacturing (except cement and concrete products)	327 excl. 3273	327A

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS327300	Cement and concrete product manufacturing	3273	3273
BS331100	Iron and steel mills and ferro-alloy manufacturing	3311	3311
BS331200	Steel product manufacturing from purchased steel	3312	3312
BS331300	Alumina and aluminum production and processing	3313	3313
BS331400	Non-ferrous metal (except aluminum) production and processing	3314	3314
BS331500	Foundries	3315	3315
BS332100	Forging and stamping	3321	3321
BS332A00	Cutlery, hand tools and other fabricated metal product manufacturing	3322, 3329	3329
BS332300	Architectural and structural metals manufacturing	3323	3323
BS332400	Boiler, tank and shipping container manufacturing	3324	3324
BS332500	Hardware manufacturing	3325	3325
BS332600	Spring and wire product manufacturing	3326	3326
BS332700	Machine shops, turned product and screw, nut and bolt manufacturing	3327	3327
BS332800	Coating, engraving, heat treating and allied activities	3328	3328
BS333100	Agriculture, construction and mining machinery manufacturing	3331	3331
BS333200	Industrial machinery manufacturing	3332	3332
BS333300	Commercial and service industry machinery manufacturing	3333	3333
BS333400	Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	3334
BS333500	Metalworking machinery manufacturing	3335	3335
BS333600	Engine, turbine and power transmission equipment manufacturing	3336	3336
BS333900	Other general-purpose machinery manufacturing	3339	3339
BS334100	Computer and peripheral equipment manufacturing	3341	3341
BS334200	Communications equipment manufacturing	3342	3342
BS334A00	Other electronic product manufacturing	3343, 3345, 3346	3343, 3345, 3346
BS334400	Semiconductor and other electronic component manufacturing	3344	3344
BS335100	Electric lighting equipment manufacturing	3351	335100
BS335200	Household appliance manufacturing	3352	3352
BS335300	Electrical equipment manufacturing	3353	3353
BS335900	Other electrical equipment and component manufacturing	3359	3359
BS336110	Automobile and light-duty motor vehicle manufacturing	33611	33611
BS336120	Heavy-duty truck manufacturing	33612	33612
BS336200	Motor vehicle body and trailer manufacturing	3362	3362
BS336310	Motor vehicle gasoline engine and engine parts manufacturing	33631	336310
BS336320	Motor vehicle electrical and electronic equipment manufacturing	33632	336320

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS336330	Motor vehicle steering and suspension components (except spring) manufacturing	33633	336330
BS336340	Motor vehicle brake system manufacturing	33634	336340
BS336350	Motor vehicle transmission and power train parts manufacturing	33635	336350
BS336360	Motor vehicle seating and interior trim manufacturing	33636	336360
BS336370	Motor vehicle metal stamping manufacturing	33637	336370
BS336390	Other motor vehicle parts manufacturing	33639	336390
BS336400	Aerospace product and parts manufacturing	3364	3364
BS336500	Railroad rolling stock manufacturing	3365	3365
BS336600	Ship and boat building	3366	3366
BS336900	Other transportation equipment manufacturing	3369	3369
BS337100	Household and institutional furniture and kitchen cabinet manufacturing	3371	3371
BS337200	Office furniture (including fixtures) manufacturing	3372	3372
BS337900	Other furniture-related product manufacturing	3379	3379
BS339100	Medical equipment and supplies manufacturing	3391	3391
BS339900	Other miscellaneous manufacturing	3399	3399
BS411000	Farm product wholesaler-distributors	411	NA
BS412000	Petroleum product wholesaler-distributors	412	NA
BS413000	Food, beverage and tobacco wholesaler-distributors	413	NA
BS414000	Personal and household goods wholesaler-distributors	414	NA
BS415000	Motor vehicle and parts wholesaler-distributors	415	NA
BS416000	Building materials and supplies wholesaler-distributors	416	NA
BS417000	Machinery, equipment and supplies wholesaler-distributors	417	NA
BS418000	Miscellaneous wholesaler-distributors	418	NA
BS419000	Wholesale electronic markets and agents and brokers	419	NA
BS441000	Motor vehicle parts dealers	441	NA
BS442000	Furniture and home furnishings stores	442	NA
BS443000	Electronics and appliance stores	443	NA
BS444000	Building materials and garden equipment and supplies dealers	444	NA
BS445000	Food and beverage stores	445	NA
BS446000	Health and personal care stores	446	NA
BS447000	Gasoline stations	447	NA
BS448000	Clothing and clothing accessories stores	448	NA
BS451000	Sporting goods, hobby, book and musical instruments stores	451	NA
BS452000	General merchandise stores	452	NA
BS453000	Miscellaneous stores retailers	453	NA
BS454000	Non-store retailers	454	NA

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS481000	Air transportation	481	481
BS482000	Rail transportation	482	482
BS483000	Water transportation	483	483
BS484000	Truck transportation	484	484
BS485100	Urban transit systems	4851	4851
BS48A000	Other transit and ground passenger transportation and scenic and sightseeing transportation	4852, 4854, 4855, 4859, 487	485A, 487, 4852
BS485300	Taxi and limousine service	4853	4853
BS486A00	Crude oil and other pipeline transportation	4861, 4869	486A00
BS486200	Pipeline transportation of natural gas	4862	486200
BS488000	Support activities for transportation	488	488
BS49A000	Postal service and couriers and messengers	491, 492	49A
BS493000	Warehousing and storage	492	492
BS511110	Newspaper publishers	493	493
BS5111A0	Periodical, book and directory publishers	51111	NA
BS511200	Software publishers	51112, 51113, 51114, 51119	NA
BS5121A0	Motion picture and video industries (except exhibition)	5112	5112
BS512130	Motion picture and video exhibition	51211, 51212, 51219	5121A0
BS512200	Sound recording industries	51213	512130
BS515100	Radio and television broadcasting	5122	5122
BS515200	Pay and specialty television	5151	5151
BS517000	Telecommunications	5152	515200
BS518000	Data processing, hosting, and related services	517	517500, 517A00
BS519000	Other information services	518	518100, 518200
BS521000	Monetary authorities - central bank	519	519000
BS5221A0	Banking and other depository credit intermediation	521	5A0110
BS522130	Local credit unions	52211, 52219	5A0130
BS522200	Non-depository credit intermediation	52213	5A0120
BS522300	Activities related to credit intermediation	5222	NA
BS52A000	Financial investment services, funds and other financial vehicles	5223	NA
BS524100	Insurance carriers	523, 526	5A0630
BS524200	Agencies, brokerages and other insurance related activities	5241	5A02
BS531100	Lessors of real estate	5242	5A0620
BS531A00	Offices of real estate agents and brokers and activities related to real estate	5311	5A03
BS5311A0	Owner-occupied dwellings	5312, 5313	5A0640
BS532100	Automotive equipment rental and leasing	ND	5A04
BS532A00	Rental and leasing services (except automotive equipment)	5321	5A0510

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS533000	Lessors of non-financial intangible assets (except copyrighted works)	532, excl. 5321	NA
BS541100	Legal services	533	NA
BS541200	Accounting, tax preparation, bookkeeping and payroll services	5411	NA
BS541300	Architectural, engineering and related services	5412	NA
BS541400	Specialized design services	5413	541300
BS541500	Computer systems design and related services	5414	NA
BS541600	Management, scientific and technical consulting services	5415	541500
BS541700	Scientific research and development services	5416	NA
BS541800	Advertising, public relations, and related services	5417	NA
BS541900	Other professional, scientific and technical services	5418	541800
BS551113	Holding companies	5419	NA
BS561100	Office administrative services	NA	NA
BS561A00	Facilities and other support services	5611	NA
BS561300	Employment services	5612, 5619	NA
BS561400	Business support services	5613	NA
BS561500	Travel arrangement and reservation services	5614	NA
BS561600	Investigation and security services	5615	561500
BS561700	Services to buildings and dwellings	5616	561600
BS562000	Waste management and remediation services	5617	561700
BS610000	Educational services	562	562
BS621100	Offices of physicians	61	61
BS621200	Offices of dentists	6211	621100
BS621A00	Miscellaneous ambulatory health care services	6212	621200
BS623000	Nursing and residential care facilities	6213, 6214, 6215, 6216, 6219	621A00
BS624000	Social assistance	623	623000
BS71A000	Performing arts, spectator sports and related industries, and heritage institutions	624	624000
BS713A00	Amusement and recreation industries	711, 712	711000, 712000
BS713200	Gambling industries	7131, 7139	713A00
BS721100	Traveller accommodation	7132	713200
BS721A00	RV (recreational vehicle) parks, recreational camps, and rooming and boarding houses	7211	721100
BS722000	Food services and drinking places	7212, 7213	721A00
BS811100	Automotive repair and maintenance	722	722000
BS811A00	Repair and maintenance (except automotive)	8111	811100
BS812A00	Personal care services and other personal services	8112, 8113, 8114	811A00
BS812200	Funeral services	8121, 8124	812A00
BS812300	Dry cleaning and laundry services	8122	812200

Appendix 2:

"Detailed" Industry Codes	"Detailed" Industry Title	NAICS 2007 Definition	Previous Naics 2002 Code
BS813000	Professional and similar organizations	8123	812300
BS814000	Private households	813	813
FC110000	Repair and maintenance	814	814000
FC120000	Operating supplies	811	811
FC130000	Office supplies	Fictive	Fictive
FC210000	Advertising, promotion, meals and entertainment	Fictive	Fictive
FC220000	Travel, meeting and convention expenses	Fictive	Fictive
FC300000	Transportation margins	Fictive	Fictive
NP610000	Educational services	Fictive	Fictive
NP621000	Ambulatory health care services	61	61
NP624000	Social assistance	621	NA
NP710000	Arts, entertainment and recreation	624	624000
NP813100	Religious organizations	71	71
NP813A00	Grant-making, civic, and professional and similar organizations	8131	813100
NP999999	Other non-profit institutions serving households	813 excl. 8131	813A00
GS611100	Elementary and secondary schools	NA	NA
GS611200	Community colleges and C.E.G.E.P.s	6111	611100
GS611300	Universities	6112	611200
GS611A00	Other educational services	6113	6113
GS622000	Hospitals	6114-6117	611B00
GS623000	Nursing and residential care facilities	622	622
GS911100	Defence services	623	623000
GS911A00	Other federal government services	9111	911100
GS912000	Other provincial and territorial government services	911 excl. 9111	911A00
GS913000	Other municipal government services	912	912
GS914000	Other aboriginal government services	913	913
GS914000	Other aboriginal government services	914	NA

Notes: NA: Not Available
ND: Not Described in NAICS